ANNUAL REPORT

Department of Public Health

CITY OF NEWARK, N. J.

1900

PRESS OF GROVER BROTHERS
764 Broad Street
Newark, New Jersey

1901

Members of the Board of Health of Newark, N. J.

Dr. H. C. H. HEROLD, President,	75 Congress Street
Mr. M. STRAUS,	1085 Broad Street
Mr. J. A. FURMAN,	65 South Tenth Street
Mr. MATTHEW T. GAY,	47 Lincoln Avenue
Dr. C. M. ZEH,	15 Central Avenue
Dr D. L WALLACE,	202 Clinton Avenue
Dr. F. W. BECKER,	478 Clinton Avenue
Dr. W. S. DISBROW,	151 Orchard Street
Mr. HUGH SMITH,	36 Central Avenue
Mr. C. EDGAR SUTPHEN,	64 Elizabeth Avenue

HEALTH OFFICER

Mr. DAVID D. CHANDLER,	74 North Seventh Street

Standing Committees of the Board of Health

FOR THE YEAR 1900.

SANITATION

Dr. Disbrow, Dr. Becker, Dr. Zeh
Mr. Furman, Mr. Gay.

FINANCE

Mr. Straus, Dr. Disbrow, Mr. Sutphen

LAWS AND ORDINANCES

Mr. Sutphen, Mr. Smith, Dr. Wallace

RULES

Mr. Smith, Mr. Sutphen, Mr. Straus

APPOINTMENTS

Dr. Wallace, Mr. Gay, Mr. Furman

SUPPLIES

Dr. Becker, Mr. Furman, Dr. Disbrow

CITY HOSPITAL

Dr. Zeh, Mr. Smith, Mr. Gay
Dr. Becker, Mr. Straus.

TRAINING SCHOOL

Mr. Furman, Dr. Herold, Dr. Zeh
Dr. Disbrow, Dr. Wallace.

Employees of the Board of Health

OFFICE DIVISION

JOHN J. GREENE, . . *Clerk Bureau Contagious Diseases*
109 Summit Street.

EUGENE W. BELLAR, . . . *Clerk Sanitary Division*
45 Congress Street.

MISS MARIE PÉRIER, . . *Stenographer to Health Officer*
372 High Street

EDWARD E. WORL, M. D., *Supt. Bureau Contagious Diseases*
271 High Street.

HERBERT B. BALDWIN, ... *Chemist*
9 and 11 Franklin Street.

GEORGE C. SONN, ... *Meteorologist*
285 Belleville Avenue.

BACTERIOLOGICAL DIVISION

DR. R. N. CONNOLLY, *Bacteriologist*, City Hospital Building
DR. R. C. RIBBANS, *Assistant Bacteriologist*, 15 Warren Street
ERNEST L. SKILLMAN, *Laboratory Assistant*, High Street & 13th Ave
HERMAN VOLK, *Culture Collector*, . 108 McWhorter Street

CITY DISPENSARY

WILLIAM A. SMITH, *Apothecary*, . . 21 Court Street
HENRY A. OLTMANN, *Assistant Apothecary* 208 Orange Street
WILLIAM M. GOULD, *Dentist*, . . 89 Halsey Street

DISTRICT PHYSICIANS

William Schopfer,	43 Read Street
J. Samuel Stage,	95 Jefferson Street
Henry W. Nolte,	53 Walnut Street
Matthew T. Gaffney,	211 Plane Street
James A. Hoffman,	50 Waverly Avenue
Samuel H. Baldwin,	473 Clinton Avenue
Vincent Nager,	23 Beacon Street
William Gauch,	199 High Street
Charles W. Titus	126 North 7th Street
Hugh M. Hart,	16 Gouverneur Street
Fred'k W. Hagney,	67 Pennsylvania Ave

SANITARY DIVISION MEAT INSPECTORS

Werner Runge,	130 Union Street
Charles Wolz,	81 Ferry Street

PLUMBING INSPECTORS

John B. Sullivan,	204 Second Street
William H. Grier,	37½ Third Street
Joseph A. Smith,	20 Burnett Street

SANITARY INSPECTORS

Thomas E. Freeman,	42 Crawford Street
Louis H. Bridgem,	59 Court Street
William H. Young,	179 Thirteenth Avenue
Andrew J. Brady,	17 Howard Street
John Wright,	70 Arlington Street
Morris Seidl,	411 South Eighth Street
Forman J. Reynolds,	182 Summit Street
Otto B. Schalk,	407 Bergen Street
Charles E. Burke,	125 Union Street

Bernard Cahill,	311 Warren Street
Hubert O'Rourke,	92 Brunswick Street
Michael Helmstaedter,	335 Mulberry Street
Antonio Panzera,	66 Madison Street
Michael Fitzsimmons,	627½ Warren Street
John F. Neary,	27 New Street

MILK INSPECTOR

William H. Lyle,	227 South Sixth Street

DISINFECTING CORPS

Samuel Knott, *Chief*,	279 Plane Street
John L. Ball,	45 Nichols Street
William Parker,	233 Academy Street
Hiram R. Stewart,	66 Thomas Street
Leonard Gillen,	82 E. Park Street
Thomas F. Newton,	141 Clifton Avenue
Richard J. Corbley,	45 Providence Street
Reginald Raymond,	129 Somerset Street

Frank Fetridge, . . *Orderly at Isolation Hospital,*
Sherman Avenue and Concord Street.

Christina Schoemer, ... *Janitress*
321 Elm Street.

DISTRICT PHYSICIANS, 1900.

1st DISTRICT—Dr. W. SCHOPFER.—District Lines: Polk Street, Lafayette Street, Hamburg Place, Thomas Street and Passaic River.

2d DISTRICT—Dr. J. S. STAGE.—District Lines: Polk Street, Lafayette Street, Hamburg Place, Thomas Street, Newark Bay, City Line, Avenue "D," Pacific Street, Clifford Street, Jefferson Street and Passaic River.

3d DISTRICT—Dr. H. W. NOLTE.—District Lines: Jefferson Street, Clifford Street, Pacific Street, Tichenor Street, Broad Street, Market Street Railroad Place and Passaic River.

4th DISTRICT—Dr. M. T GAFFNEY.—District Lines: Railroad Place, Market Street, Broad Street, Lincoln Park, Spruce Street, High Street, Central Avenue, Fulton Street and Passaic River.

5th DISTRICT—Dr. J. A HOFFMAN.—District Lines: High Street, Warren Street, Newark Street, Richmond Street, Rankin Street, Charlton Street, Spruce Street.

6th DISTRICT—Dr. S. H. BALDWIN.—District Lines: Charlton Street, Springfield Avenue, Fifteenth Avenue, City Line, Lyons Avenue, Clinton Place, Hawthorne Avenue, Ridgewood Avenue, Livingston Street, Eighteenth Avenue and Spruce Street.

7th DISTRICT—Dr. V. NAGER.—District Lines: Fifteenth Avenue, Springfield Avenue, Rankin Street, Richmond Street, Newark Street, Warren Street, Central Avenue and City Line.

8th DISTRICT—Dr. W GAUCH.—District Lines: High Street, Eighth Avenue, Clifton Avenue, Norfolk Street, Central Avenue, Hudson Street and Warren Street.

9th DISTRICT—Dr. C. W. TITUS.—District Lines: Central Avenue, Warren Street, Hudson Street, Central Ave., Norfolk Street, Clifton Avenue, Bloomfield Avenue and City Line.

10th DISTRICT—Dr. H. M. HART.—District Lines: Fulton Street, Central Avenue, High Street, Eighth Avenue, Clifton Avenue, Bloomfield Avenue, City Line and Passaic River.

11th DISTRICT—Dr. F. W. HAGNEY.—District Lines: Avenue "D," Pacific Street, Tichenor Street Lincoln Park, Spruce Street, Eighteenth Avenue, Livingston Street, Ridgewood Avenue and City Line.

ANTITOXIN AND CULTURE STATIONS

Established by the Board of Health for the Collection of Cultures and Distribution of Antitoxin.

D. Bramley,	110 Union Street,	1397A	N. Y. & N. J Tel. Co.
F. Rodeman,	77 Ferry Street,	1309B	"
F. Bruguier,	76 Hamburg Place,	2091A Bowery	"
Grossenbeck & Reichle,	28 Bowery Street,	2080 Bowery	"
Linnett Bros.,	77 Lincoln Park,	1345 A	"
C. Holzhauer,	787 Broad Street,	1312	"
Fielding,	925 Broad Street,	914	"
Petty's,	Prudential Building,	914	"
Greenleaf,	579 Broad Street,	1568	"
H. F. Jackson,	482 Broad Street,	1536B	"
W. Scudder,	95 Belleville Avenue,	1579	"
A. Schurr,	289 Belleville Avenue,	1506	"
H. Weller,	190 Washington Avenue,	1349F	"
J. Betzler,	503 Orange Street,	2097 Roseville	"
Avery & Co.,	291 Central Avenue,	1504	"
C. Moll,	166 Central Avenue,	1319	"
L. L. Staehle,	169 South Orange Avenue,	1539	"
R. Staebler,	166 Springfield Avenue,	1447	"
Briedenbach,	167 Belmont Avenue,	8323	"
E. Reichle,	362 Springfield Avenue,	1534	"
D. D. Beldon,	315 South Orange Avenue,	1487A	"
F. F. Crissey,	320 Bank Street,	1391	"
S. Epstein,	195 Orange Street,	1380	"
W. E. Moore,	488 Clinton Avenue,		

CLINICS AT CITY DISPENSARY.

MEDICAL.

MALE AND FEMALE.

Every day, excepting Sundays at 9 A. M.—District Physicians in attendance.

SKIN.

Tuesdays and Fridays at 10 A. M.—DRS. H. J. F. WALLHAUSER, Chief, and DR. R. C. RIBBANS, Assistant.

GYNAECOLOGICAL.

Tuesdays and Fridays at 3 P. M.—DR. E. Z. HAWKES, Chief, and DR. W. GAUCH, Assistant.

CHILDREN'S.

Mondays, Wednesdays and Fridays at 10 A. M.—DR. R. COE, Chief, and DR. PRICE, Assistant.

GENITO URINARY CLINIC.

Tuesdays and Saturdays at 10 A. M.—DR. J. W. WILSON, Chief, and DR. T. HOPPER, Assistant.

SURGICAL.

Mondays, Tuesdays, Wednesdays, Thursdays and Fridays at 12 M.—DR. W. BUERMAN, Chief, and DRS. M. DANZIS and L. WEISS, Assistants.

DENTIST.

Mondays, Wednesdays and Fridays at 1 P. M.—DR. W. M. GOULD.

ANNUAL REPORT

OF THE

HEALTH OFFICER

FOR THE YEAR 1900

ANNUAL REPORT

OF THE

HEALTH OFFICER

FOR THE YEAR 1900

To the Honorable, the Board of Health of the City of Newark, New Jersey:

GENTLEMEN:—I have the honor to herewith present to you my report of the workings of the various divisions of the Department of Public Health, together with a report of the Superintendent of the Bureau of Contagious Diseases, Bacteriologist and Chemist of the Board, for the year ending December 31st, 1900:

As to the urgent needs of the Department for carrying on its work in an efficient and scientific manner, I would again most respectfully refer you to my report of 1897

VITAL STATISTICS.

The total number of births reported during the year was 6,117. Of this number 5,968 were white and 119 colored; 3,176 were male and 2,933 were female, and the sex of eight was not stated; 6,014 were legitimate and 103 were illegitimate.

The birth rate per thousand of the population is 24 85 and exceeds the death rate for the year 4 51 per 1,000.

There were 313 still births, or 1.27 per thousand of the population (See table 1)

MARRIAGES.

There were recorded 2,477 marriages. Of this number 2,417 were white and 60 colored. This represents a rate of 10 0 per thousand, which must be considered below the actual rate Neglect on the part of those whose duty it is to report these facts is the cause (See table 11)

DEATHS.

There were reported during the year 5,006 deaths, which represents a death rate of 20 34 per thousand. Of these 3,420 were native born and 1,527 were foreign born, and in 59 cases the nativity was not stated Of this number 4,817 were white ; 187 colored and 2 Mongolians

The social state of decedents was, as follows :

Single	2,671
Married	1 480
Widow	492
Widower	253
Not Stated	110
Total	5 006

Nine hundred and thirty-one deaths occurred in institutions and public places (See table IV.)

The report of the Sanitary requirements of the City and the needs of the Department, which are most urgent, in brief are as follows :

1st A Public Disinfecting Station.
2d. Isolation Hospital
3d. Separation and Collection of Garbage
4th. A Public Abattoir.
5th. An Emergency Hospital and Ambulance Service

6th. Medical Inspection of Schools

7th. A suitable building wherein the Divisions of the Department could be concentrated under one roof

SANITARY DIVISION.

The work of this Division is performed by fifteen inspectors appointed by the Board, each having a separate district under his supervision, for which he is held responsible.

In performing these duties, I wish to state that their work for the year has been done in a painstaking and creditable manner

CONSOLIDATED REPORT OF NUISANCES FOR THE YEAR ENDING DECEMBER 31, 1900.

Inspections from complaint book	2,210
" " " verified	1,946
" " " no cause	264
Number of original inspections made	13,379
Total number of inspections made	15,589
Number of written notices served	2,107
Total number of abatements	2,741
Number of verbal notices	6,294
Number of abatements from same	5,381
Number of hours in court	139

DETAILED REPORT

Wells inspected	43
Wells closed	1
Sewer connections ordered	433
Sewer drains inspected	1 890
Cesspools inspected	272
Alleys inspected	508
Alleys filthy	53
Alleys need repairing	82

Streets need cleaning	109
Areas dirty	459
Cellars dirty	821
Ashes accumulation	646
Garbage accumulation	487
Drainage surface	58
Lots filthy	115
Lots stagnant water	64
Manure accumulation	485
Defective water pipes	224
Houses filthy	43
Houses unfit for habitation	10
Slaughter houses inspected	26
Houses unprovided with privy vaults or water closets	25
Houses with no water supply	61
Houses with roofs defective	33
Hydrants defective	71
Privy houses filthy	113
Privy vaults full	492
Cesspools full	248
Privy houses dilapidated	44
Privy vaults ordered reconstructed	21
Privy vaults ordered out	1,053
Yards inspected	14,327
Yards filthy	1,064
Plumbing defective	588
Water closets defective	534
Stables inspected	996
Reinspections	10,065
Total number of nuisances	5,264
Permits granted to clean privy vaults and cesspools	573
Privy vaults cleaned	511
Cesspools cleaned	62

In January, 1900, two houses were found to be unfit for habitation, and in May, 1900, eight. Six were placed in good sanitary condition, two vacated and two torn down.

PLUMBING DIVISION.

This division is under the supervision of three practical plumbers, and the work performed by them has been satisfactorily demonstrated.

The following is a summary of the work of thi division for the year 1900 :

Plans approved	1 191
Plans rejected	149
Water tests made	2,161
Plumbing inspections made	1 940
Final plumbing inspections made	1,711
Peppermint tests made	70
Sewer permits granted	1 418
Cesspool permits granted	83
Privy vault permits granted	47
Relay sewer permits granted	132
Violations served	0
Violations complied with	0
Hours in court	18

MEAT AND LIVE STOCK DIVISION

This division is under the supervision of two Inspectors ; one a Veterinarian, whose duty it is to look after the slaughter houses and wholesale meat depots ; the other an experienced butcher, whose duty it is to visit all the public and private meat and vegetable markets.

The following is a summary of the work of this division for the year 1900

SLAUGHTER HOUSE AND LIVE STOCK INSPECTIONS

Cattle	14,318
Calves	19,808
Sheep	17 909
Hogs	6,163
Total	58,198

CONDEMNED

Calves	15
Horses (Glanders)	11
Carcasses of Beef	8½

QUARANTINED

Calves	3

BUTCHER SHOPS VISITED.

Number of visits	8,384
Number of carcasses of beef inspected	31,529
Number of lambs and sheep.	108,713
Number of calves.	12,20[illegible]
Number of swine.	11,[illegible]57

CONDEMNED.

Bob calves	[illegible]
Chickens (lbs.)	200
Beef (lbs.)	[illegible]
Apples (bbls.).	15
Potatoes (bbls.)	[illegible]
Turkeys (lbs.)	50
Cheese (cases)	3
Calves	2
Fish (bbls.)	2
Fish (lbs.)	50

Five complaints were attended to and adjusted.

In addition to the above, Centre Market has been visited daily.

MILK INSPECTOR'S REPORT

The report of the Milk Inspector, together with the number of cow stables inspected and animals licensed, for the year 1900, is as follows:

Number of milk wagons halted for inspection	1,983
Number of cans of milk inspected on same	4,483
Number of lactometer tests	1,947
Number of stores visited	2,531
Number of depots visited	10

Number of cans of milk inspected at depots and stores...	2 377
Number of lactometer tests..	1,561
Number of samples found suspicious and sent to Chemist for analyses.....	283
Number of samples of ice taken for bacteriological examination	4
Number of samples of milk taken for bacteriological examination	1
Number of samples of mineral water taken for bacteriological examination	13
Number of cow stables inspected.....	192
Number of animal permits issued	258
Number of animals licensed..	152

DISINFECTING CORPS.

This division consists of a chief and seven inspectors detailed for that purpose.

The work of this division is all that can be desired under the existing conditions.

The following is a summary of the work performed during the year 1900 :

CASES REPORTED.

Diphtheria, including Membranous Croup (Placarded).....	1,417
Scarlet Fever (Placarded)	708
Typhoid Fever (Not Placarded)	320
Small Pox (Not Placarded)	15
Total	2 460

DISINFECTIONS

Diphtheria.....	1,278
Scarlet Fever	583
Phthisis	429
Small Pox	12
Special	141
Total number of houses ..	2 443
Total number of rooms	5,690
Cubic feet of air space	5,690,000
Number of control cultures used	1,809

Number showing growth after exposure.....	33
Number showing no growth	1 725
Number of visits to houses under quarantine.	2,353
Number of nuisances found . .	303
Contagious Disease Funerals supervised ..	57

THE CITY DISPENSARY AND OUT-DOOR POOR DIVISION.

The following is a detailed statement of the services rendered by the different clinics, together with the treatment of what is known as the Out-door Poor Contingent:

PERSONS TREATED AT THE FOLLOWING CLINICS:

Medical	11 [illegible]
Surgical .. .	2 652
Diseases of Skin	1 314
Diseases of Children. . ..	8 [illegible]
Diseases of Women.....	3,4
Diseases of Genita Urinary Organs	1,144
Number of Vaccinations . . .	11 066
Number of Teeth Extracted. . .	1,350
Number Clinic Prescriptions .	2,835

NUMBER OF DISTRICT PRESCRIPTIONS DISPENSED AS FOLLOWS:

1st District.	1,003
2d District	1 09,
3d District . .	932
4th District ..	8[illegible]6
5th District .	52[illegible]
6th District . .	3[illegible]
7th District . .	4[illegible]
8th District.	8,5
9th District	[illegible]12
10th District	1 181
11th District. . . .	[illegible]

Total Number of District Prescriptions. 9,106

RECAPITULATION.

Total Number of Patients Treated	30,462
Total Number of Prescriptions Dispensed	33,556

SUMMARY OF SERVICES RENDERED BY DISTRICT PHYSICIANS.

	1st Dist. Dr W. H. Shopfer.	2d Dist.—Dr. H W Long.	3d Dist —Dr. W. M. Goodwin	4th Dist —Dr. M. T. Gaffney.	5th Dist - Dr M. L. L. We.zmiller- 6 months	5th Dist.—Dr. J. A. Hoffman—6 months.	6th Dist.—Dr S H. Baldwin	7th Dist.—Dr. V. Nager.	8th Dist —Dr. W. Gauch.	9th D.st.—Dr. C. W. Titus.	10th Dist.—Dr. H. M. Hart.	11th Dist —Dr. F W. Hagney
Actual No. of houses visited	387	432	394	986	296	146	281	315	579	335	363	411
Actual No. of families visited	401	459	417	1176	230	155	311	320	582	350	399	417
No of sick prescribed for	429	502	463	1142	276	176	374	354	583	394	470	47
No. of sick found treated by other physicians	7	19	5	52	18	25	8	3	0	18	5	5
Total No. of revisits made	460	861	984	1107	559	364	707	637	917	1060	831	812
No of patients sent to hospital	22	30	26	34	13	40	31	24	17	3	29	1(
No of deaths	19	22	22	13	3	9	2	5	10	2	11	4
No of circulars on infant feeding distributed	0	10	1	5	0	0	0	0	0	16	0	0

RECAPITULATION.

	Actual No. of houses visited	Actual No. of families visited	No. prescribed for	Found treated by other physicians	Total No. of visits made	No. of patients sent to Hospitals	No of deaths.	No of circulars distributed.
1st District	387	401	429		4[illegible]	22	19	0
2d	432	4[illegible]	502	1[illegible]	[illegible]1	30	22	[illegible]
3[illegible]	[illegible]24	4[illegible]	4[illegible]3	5	[illegible]84	2[illegible]	22	1
4th	[illegible]5[illegible]	11[illegible]	1142	52	1107	34	13	5
5th	442	3[illegible]	462	13	23	53	12	[illegible]
6th	281	341	374	[illegible]	7[illegible]	31	[illegible]	[illegible]
7th	31[illegible]	3[illegible]	384	[illegible]	[illegible]37	24	5	[illegible]
8th	[illegible]	[illegible]	[illegible]53	[illegible]	[illegible]17	1	10	0
9th	335	350	3[illegible]4	18	1060	[illegible]	[illegible]	[illegible]
10th	3[illegible]3	3[illegible]	4[illegible]	[illegible]	531	29	11	0
11th	411	4[illegible]	[illegible]	5	[illegible]12	10	[illegible]	[illegible]
Total	4925	5217	5633	166	9349	27[illegible]	122	32

RECEIPTS AND DISBURSEMENTS OF THE BOARD OF HEALTH FOR THE YEAR ENDING DEC 31, 1900.

Balance on hand January 1, 1900. ..... $	141 27	
Appropriated by Common Council (Tax Ordinance) .	10,000 00	
Appropriated by Common Council (Contingent Fund	45,000 00	
Fines collected (1st Precinct Court) Board of Health cases.....	466 10	
		$55,607 37

OFFICE RECEIPTS.

Filing plans (Plumbing Division) .....$	2,382 00	
Scavenger permits (Sanitary Division)	57 30	
Animal permits " "	105 20	
Scavenger licenses " "	100 00	
Chicken slaughter house permits.....	3 00	
		$2,647 50

BACTERIOLOGICAL DIVISION.

73 vials Antitoxin $1 per vial ....$	73 00	
126 " " $1 " less 10%	113 40	
47 " " $1 " less 20% ..	37 60	
Bacteriological examinations (out of town cases)	54 00	278 00
Total receipts		$58,532 87

DISBURSEMENTS

SALARIES SANITARY DIVISION

Health Officer .. . ... $	3,380 00
Clerks (2) .	2,400 00
Stenographer	600 00
Supt. Bureau Contagious Diseases....	1,000 00
Chief Disinfecting Corps .	1,000 00
Chemist . .	1,200 00
Meat Inspectors (2)	2,000 00
Plumbing Inspectors (3)	3,587 10
Milk Inspector..	860 75

Sanitary Inspectors (20)	16,876 75	
Janitress	180 00	
Meteorologist	72 00	
		33,126 60

BACTERIOLOGICAL DIVISION

Bacteriologist	$ 2,000 00	
Assistant Bacteriologist	720 00	
Culture Collector	780 50	
Laboratory Assistant	600 00	
		4,100 50

DISPENSARY.

City Apothecary	$ 1,500 00	
Assistant City Apothecary.	900 00	
Dentist	200 00	
Janitress	180 00	
		2 780 00

INDIGENT POOR DIVISION.

Physicians (11) $40 per month	$ 5,200 80	5,200 80

SMALL POX HOSPITAL.

Orderly	720 00	720 00
Total.		$47 007 10

DISBURSEMENTS

SANITARY DIVISION 1900.

Rubber Gloves.	$ 2 00
Cleaning and Laying Office Carpet.	2 28
Duplicator.	5 00
Uniform Buttons	5 00
Expert Testimony (Kohn Meat Case)	5 00
City Directory	6 00
Electrical Repairs	7 00
Medical and Surgical Directory.	10 00
Typewriter Supplies	10 38
Badge Member Board of Health	12 00

Badges and Hat Bands—Inspectors	12 45	
Exosmoline—Plumbing Tests	15 39	
Janitress' Supplies—Mops, Pails, Brooms, Ash Cans, etc	20 53	
Coal and Wood—Office	36 50	
Constables' Fees (Unsatisfied Executions Board of Health Cases)	43 50	
Board and Carriage Hire—Inspector at Water shed	44 00	
Electrical Display -20th Century Celebration	46 00	
Carriage Hire	47 50	
Ice (Office) 2 years' supply -1899-1900	53 60	
Title Deeds Camden St. Property	66 62	
Electric Light for Office	75 15	
Members Board of Health—Inspection of Water-shed (three days)	88 25	
Printing Annual Report 1899	183 00	
Reimbursing Physicians Reporting Contagious Diseases—1899	231 50	
Stationery and Printing	235 80	
Telephone Service (three phones)	262 00	
Rent of Office	800 00	
Members Board of Health—Indianapolis, Ind.—Annual Convention of American Public Health Association	1,200 00	
		$3,526 45

PETTY CASH EXPENDITURES.

Picture Hooks	5
Box of Enameline	10
Package Bon Ami	10
Machine Waste	15
Window Glass	15
Trimming Horses Feet (Small Pox Hospital)	25
Soap	25
Stowing Coal	25
Moving and putting up Desk	25
Memorandum Books	30
Index Book	40
Whisk Broom	45

Electrical Repairs		50
Silver Polish		50
Keys (2)		50
Sponges		50
Cleaning Rugs and Mats Office		74
Tape Line		70
Gas (City Dispensary)		70
Rubber Bands		75
Matches		80
Excelsior Ink Pad		1 00
Mucilage		1 05
Caning and Repairing Office Chairs		1 20
Carting		1 25
Duplicating Ink (half dozen vials)		1 50
Infected Bedding Destroyed		1 50
Grocers' Supplies (Emergency Cases –Small Pox)		1 56
Putting up and taking down Awnings		1 75
Carpenter Work		1 72
Repairing Water Cooler		1 70
Stationery –Note and Wrapping Paper and Pads		2 31
Tubes and Gauges (Disf. Corps)		2 80
Toilet Paper		3 13
Scrubbing Office (Extra Service)		3 50
Subpœnas (Board of Health Cases)		3 50
N. J. State Sanitary Asso. (two years' dues)		4 00
Infected Clothing Destroyed (Small Pox Case)		5 00
Rubber Stamps		4 50
Expressage		3 48
Telegrams		4 57
Kerosene Oil (Disf. Corps)		5 41
Cab Hire		12 10
Legislative Committee's Expenses to Trenton		15 75
Washing Towels—Office		16 33
Inspection of Watershed Members of Board of Health		34 95
Reorganization Board of Health		54 85
Postage Stamps		89 38
Car Fare –Semi monthly Inspection of Watershed and Incidental Expenses		75 55
Car Fare—Bureau Contagious Diseases		10 00
Car Fare—Sanitary Division		56 27
Car Fare—Disf. Corps		270 00
		$ 700 00

DISPENSARY—DISBURSEMENTS.

Putting up Awnings	2 00	
Brooms, Mops and Dusters	4 87	
Electrical Repairs	5 50	
City Directory	6 00	
Extra Cleaning and Scrubbing	10 00	
Gas	12 90	
Ice	27 60	
Telephone Service	29 70	
Surgical Instruments	40 30	
Washing Towels	45 00	
Liquors	58 50	
Plumbing Work—Repairing Stoves, etc	75 56	
Coal	103 00	
Printing and Stationery	120 00	
Vaccine	835 00	
Drugs	1,680 23	
		$ 3,256 16

DISINFECTING CORPS—DISBURSEMENTS.

Oil Cans	1 33	
City Directory	6 00	
Cases for Regenerators	9 00	
Wood Alcohol	9 75	
Chloride Lime	16 00	
Evaporating Pans for Regenerators	18 00	
Repairing Regenerators	15 50	
Telephone Service	19 50	
Regenerators (2)	50 00	
Printing and Stationery	90 50	
Formaldehyde	277 20	
		$ 512 78

BACTERIOLOGICAL DIVISION. DISBURSEMENTS.

Horse Blankets	$ 30 25	
Printing and Stationery	77 90	
Guinea Pigs	96 00	
Horse Shoeing (Antitoxin horses—5)	96 26	
Petty Cash, Postage, $145.70, Expressage, 75c. Carefare, $3 35; Wire, 20 cents	150 00	

Laboratory Supplies, (Boxes, Glassware,) Chemicals, Culture Tubes, etc	202 86	
Plumbing and Masonry work (New Laboratory)	827 44	
Board and Prof. Services (Antitoxin Horses)	$1,206 35	
		$2,687 06

SMALL POX DISBURSEMENTS.

Harness Dressing and Soap	$ 1 00	
Liquors	1 50	
Halter	1 50	
Shoeing Horses	2 00	
McNeil's Treatise on Isolation Hospital	3 50	
Rubber Goods	4 16	
Kitchen Utensils	6 61	
Lumber, repairing fence	7 47	
Water Rent	7 50	
Kerosene Oil, Lamps and Globes	11 40	
Wire Netting and Tacks	12 37	
Plumbing Work	15 00	
Furniture	21 46	
Telephone Service	24 00	
Ice	24 79	
Stove and Fixtures	28 46	
Drugs	29 31	
Repairing and Painting Roof	42 00	
Coal	50 50	
Clothing (Discharged Patients)	53 47	
Bedding	53 48	
Hay and Feed	62 56	
Nurses Salary	72 00	
Special Officer	78 00	
Repairing Ambulance	117 50	
Cook's Salary	190 00	
Grocer Supplies	314 80	
Medical Attendance	360 00	$1,596 34
Total		$58,285 89

RECAPITULATION.

Total Receipts	$58,532 87
Total Disbursements	$58,285 89
Balance on hand January 1, 1901	$246 98

The following report was read by Dr H C H Herold, President of the Board of Health, at the meeting of the American Public Health Association, held at Indianapolis, Ind., in October, 1900.

NEWARK'S DIPHTHERIA ANTITOXIN PLANT - IT'S RESULTS AND COST

DR. H C. H. HEROLD

READ BEFORE A P HEALTH ASSOCIATION, OCTOBER, 1900.

Antitoxin has been used by this Board for five years, and the percentage of deaths resulting from diphtheria during that period was less than half that for a nearly equal period preceding The average yearly expense of the Antitoxin Department has been $4,786 85.

Early in 1895, after much opposition from some of our city officials and from members of the medical profession, a laboratory for bacteriological research, with an attendant plant for the application of the Antitoxin remedy for diphtheria, was established under the jurisdiction of the Board of Health in the city of Newark That department has now been in practical operation for more than five years, and I desire, for the benefit of public departments of health and hygiene throughout the country, to present as succinctly as possible the results of the experiment as viewed from the standpoint of both the physician and financier.

First, let us consider clinical results:

Our Newark laboratory was established in February, 1895, with an appropriation of $5,000, made by the Mayor and Common Council to the Board of Health Newark Antitoxin, by which I mean Antitoxin made in our own

laboratory, was first used in June, 1895. Prior to that year, with a sporadic use by a few physicians of a purchased, inferior article, the number of cases each year, and the number of deaths resultant, had been as follows :

DIPHTHERIA BEFORE THE USE OF ANTITOXIN.

1891	447	cases	175	deaths.
1892	528	"	193	"
1893	357	"	144	"
1894	466	"	180	"
Totals	1,798	"	692	"

Per cent , 38

This table shows an average rate of death each year in proportion to the number of cases reported, of from 35 per cent. to 40 per cent

The hospital mortality in these years was still greater, ranging as high as 45 per cent., which was doubtless owing to the seriousness of most of the cases taken to those institutions

Since the introduction of Antitoxin, that is, since June, 1895, there has been a steady decrease in the proportion of deaths to cases, due unquestionably to the gradually extended use of the remedy placed at the disposal of our physicians.

FIVE YEARS OF ANTITOXIN.

The records of the city show that for the years between 1894 and 1900 the cases reported each year, together with the number of deaths each year, were as follows :

Diphtheria cases and deaths (since the use of Antitoxin) :

	Cases.	Deaths.	Pr Ct.
1895	1,321	273	
1896	1,261	218	
1897	969	137	
1898	1,019	133	
1899	1,170	124	
Totals	5,740	885	15 4-10

Here, then, is a decrease from 38 per cent. in the four years prior to 1895, to 15 4-10 per cent. in the five years succeeding and including 1895, during the part of which first mentioned year the laboratory had not been completed. But these figures do not express all of the results. There should be taken into consideration also, in forming an intelligent judgment of the result, the number of cases in which Antitoxin was used and the number of cases in which Antitoxin was not used, and a comparison made between the effect of the two methods of practice. Few cities have such records, but in Newark they have been accurately kept since the establishment of our Bacteriological Laboratory.

Naturally, in the mildest cases, where there seems to be little danger, some physicians are disinclined to administer the remedy, while in cases where death is imminent even the most antagonistic practitioner is fairly certain to use Antitoxin as a last resort, but too late. Therefore, in the statement of the cases where Antitoxin is not used, there is necessarily a larger proportion of very mild attacks.

A TABULATED COMPARISON.

The records of Newark show the following:

1. Diphtheria (Antitoxin not used).

	Cases.	Deaths.	Per Ct.
1895	937	221	23
1896	256	112	31
1897	406	76	19
1898	373	65	17½
1899	372	54	14½

2. Diphtheria (Antitoxin used).

	Cases	Deaths.	Per Ct
1895	384	52	13
1896	905	106	11 7-10
1897	563	61	11
1898	646	68	10 5 10
1899	798	70	8 77 100

These figures show far more forcibly than any theoretical argument the great value of this remedy, when administered through the medium of a proper system. The high mortality prior to 1895 has been diminished from an average of 38 per cent. to 15 4-10 per cent., whether Antitoxin was used or not, and that this decrease is directly due to the intelligent use of the remedy is still further proved by the fact that where Antitoxin was used the rate had decreased to less than 9 per cent. Obviously, if the remedy had been employed in every case the general proportionate rate of deaths to cases could not have been higher than the rate in those cases where the remedy was used.

Before this branch of the subject is dismissed, these few observations may be worth noting. The total number of our cases seems large for a city of 250,000 inhabitants. This is due not only to the growth of our municipality, but also to the greater precision of diagnosis. We establish the presence of true diphtheria by the discovery of the Kleb Loffler bacillus in the culture taken from the throat of the patient and microscopically examined. This system reveals the fact that many cases of sore throat, stomatitis, etc., must be included in the list. But we also accept the clinical diagnosis of the physician. It is fair to assume that for reasons which will be shown in the financial statement that cases are far better reported in our city than in cities which have no laboratory.

Experience shows that the earlier Antitoxin is used—preferably within the first three days—the better is the result obtained. It has been said that to-day more cases of Post Diphtheritic Paralysis are found than formerly, and it has even been charged that Antitoxin is responsible for it. The real reason for the existence of Post-Diphtheritic Paralysis is that the life of the patient is prolonged by

Antitoxin and the paralysis thereupon becomes observable in extreme cases. If Antitoxin were used at the beginning in sufficiently large doses no paralysis could or would develop.

Slight rashes and Urticaria may occur, but there is no Albumenuria, Nephritis or bad results which can be credited to the properly prepared Antitoxin Whatever unfortunate symptoms are observable are a part of the disease itself.

USED IN HEAVY DOSES.

Antitoxin should not be too timidly given in bad cases. The dose should be repeated in twelve hours, especially when Broncho Pneumonia is imminent or apparent The bacilli appear in large numbers in these cases. The tendency now is towards the use of higher units. Our Antitoxin is not less than 2,500 units, and ranges as high as 4,000 units, but we may go still higher.

In concluding this department of the subject, I desire to add that no fatality has ever resulted from the use of Antitoxin in the city or Newark, and it has been conclusively demonstrated by the scientific use of the remedy that diphtheria is a disease whose bad prognosis can be and is changed to a disease whose prognosis is good We do not consider that we have by any means arrived at the lowest percentage of deaths to cases which may be obtained by the use of this remedy, and we are convinced from the experience of other cities similarly situated, that where other methods are employed in treating this ailment, that with the abandonment of our Antitoxin plant and the use of its produce, the mortality would rise again to the highest percentage of former years

That you may properly understand the manner in which the department is financiered in Newark, I desire to state that we have a completely equipped Laboratory,

We have a Bacteriologist, who has two assistants. We have a Culture Collector, who each day collects the culture tubes from twenty-one stations in an area of eighteen and a half square miles. The population of the city, as I have said, is 250,000. We also have five Antitoxin horses maintained for that use alone. Not only is the Laboratory free to all the physicians in the city, but the Antitoxin is supplied free and the tubes collected at the department's expense. A small income is derived from the sale of the remedy to a few neighboring towns and from the use of the Laboratory by non residents; but no charge whatever is made for anything to our own citizens.

COST OF THE DEPARTMENT.

The cost of maintaining the department since its establishment has been as follows:

LABORATORY APPROPRIATIONS AND EXPENSES.

1895—Appropriation		$5,000 00	
	Disbursements	3,713 29	$ 3,713 29
Balance turned into general fund		1 286 71	
1896	Salaries	2,164 00	
	Supplies	2,699 78	4,863 78
1897	Salaries	3,095 00	
	Supplies	1,760 86	4,855 86
1898—Salaries		3,781 68	
	Supplies	2.200 40	5,982 08
1899—Salaries		3,820 00	
	Supplies	2,184 52	6,004 52
			$25,419 55

RECEIPTS (to be deducted).

1895	$ 157 00
1896	290 50
1897	318 90
1898	325 50
1899	390 40
	$1,485 30

Total expenses—five years	$25,419 53
Less	1,485 30
Net	$23,934 23
Average yearly expenses	4,796 86

The work of the department in 1899 may be tabulated as follows :

1.	Diphtheria examinations (primary and secondary cultures)	2,907
2.	Vials of Diphtheria Antitoxin produced	1,975
3.	Examinations of sputa for tubercle bacilli	799
4.	Blood examinations for Typhoid Malaria	717
5.	Water and milk analysis and examinations	416

These figures do not fully describe the capacity of the plant. Our production of Antitoxin could, for instance, be easily quadrupled at slight cost. The same work, if performed at the usual Laboratory rates, would cost double the amount expended.

We consider, therefore, as a financial investment, that the Laboratory pays, and we encourage its free use. We are anxious that its boon shall be known and made use of by all our citizens. We can produce the highest standard Antitoxin at a net expense of not over fifty three cents per vial Rich and poor alike share not alone in the employment of the remedy, but are at liberty to call upon the Bacteriologist and his assistants for all proper purposes

Periodical examinations are made of the drinking water of the city, and the attention of the proper authorities is called at once to pollution whenever it is found to exist, and where food and drink, presumed to be deleterious, are offered, they are examined gratuitously and a report returned All this work must be included among the benefits obtained from the very small expenditure of money appropriated annually by the Common Council

Under the old system, or rather absence of system, we would have had, in 1899 445 deaths, as a result of the 1,170 cases of diphtheria reported in 1899 We had, as a matter of fact, but 124 deaths, many of them due to the failure to use Antitoxin It can be reasonably claimed, therefore, that 321 lives were saved in that year, at a net expense to the city, excluding a consideration of other benefits derived, of $6,000 How much more than the whole of this $6,000 was each of those 321 lives worth.

REPORT OF

BUREAU OF CONTAGIOUS DISEASES.

MR. DAVID D. CHANDLER,
Health Officer.

Dear Sir—I have the honor to present the following report of the work of the Bureau of Contagious Diseases for the year 1900 :

OUR POPULATION

The report of the U. S. Census for 1900 gives Newark a population of 246,070. Our estimate of the population is thus proven to have been just and conservative In 1890 the population was 181,830 Our increase, therefore, in the decade 1890-1900 was 64,240, or 35 3-10 per cent. Our population is distributed in fifteen wards of the city, as folllows :

WARD.	POPULATION.
1	13,805
2	13,670
3	21,370
4	11,111
5	15,103
6.	17,821
7.	14 531
8	13,551
9	12,086
10	18,313
11	18,632
12	16,912
13.	21,194
14	23,359
15	14,612

Our State is rapidly growing in population. Its population to-day is more than five times as great as it was in 1840. Newark has held its own in this increase and is a vast and growing city, but its public improvements are far behind the growth and demand of its people.

THE DEATH RATE.

The death rate for the year is fixed at 20.34—taking the population at the U. S. Census figures of 240,070. The following tables compare these rates for seven years past.

YEAR	POPULATION.	NO. OF DEATHS.	DEATH RATE.
1894	203,923	4,543	22.28
1895	215,725	4,616	21.37
1896	225,000	4,716	20.96
1897	230,000	4,010	17.43
1898	235,000	4,303	18.30
1899	240,000	4,537	18.90
1900	246,070	5,006	20.34

SCARLET FEVER

During 1900 there were reported 708 cases of this disease and 55 deaths. Comparing with the previous years we have

YEAR	CASES	DEATHS.
1894.	1145	63
1895	623	35
1896	537	17
1897	1385	41
1898.	478	15
1899	607	34
1900.	708	55

The average mortality for seven years is $5\frac{1}{10}$%.

REPORTED CASES BY MONTHS—1900.

January	108	July	23
February	94	August.	31

March	98	September	19
April	83	October	48
May	80	November	34
June	48	December	42
		Total	708 cases

TYPHOID FEVER

During 1900 we had 320 cases and 50 deaths—a mortality of 15½ per cent. This is a decided decrease from the number of cases in 1899 -515 ; but a comparison month by month of the reported cases show that in 1900 the cases were more uniformly distributed throughout the year and the number is greater than we should expect. Comparing the years we have :

YEAR	CASES	DEATHS
1894	89	34
1895	149	50
1896	106	47
1897	103	33
1898	179	41
1899	515	66
1900	320	50

REPORTED CASES BY MONTHS—1900.

January	14	July	25
February	4	August	60
March	3	September	54
April	15	October	32
May	18	November	34
June	26	December	35
		Total	320 cases

SMALL POX.

During 1900 we had fifteen cases of small pox and one death. Four of these cases occurred in May and eleven in June. Nine cases were colored people and six cases were

white. The universal prevalence of small pox in the United States and the present conditions are such as to lead us to expect more cases in future.

We again appeal to the people of Newark to better our facilities not only for handling this disease, but also that scarlet fever and diphtheria should have a modern fever hospital. The difficulties of handling this disease are much increased and the burden is unnecessarily heavy. Where so much is expected and demanded in managing this disease, we have a right to ask this in return. No prejudice whatsoever should be allowed to stand in the way of this hospital. The need of it is urgent to the last degree.

YEAR	CASES	DEATHS.
1894	131	18
1895	13	2
1896	[illegible]	0
1897	0	0
1898	0	0
1899	22	0
1900	25	1

DIPHTHERIA.

During 1900 there were reported 1,417 cases and 143 deaths—a mortality of 10.7 100 per cent. This is an actual increase in the number of cases over the year 1899—*i. e.* 1,170 cases, but the general mortality carries about the same percentage. Comparing the previous years and mortality, we get:

DIPHTHERIA CASES AND DEATHS.

YEAR	CASES.	DEATHS.	PER CT.
1895	1,321	273	
1896	1,271	215	
1897	969	137	
1898	1,189	133	
1899	1,247	124	
1900	1,417	143	
Total	7,157	1,028	14 3-10

DIPHTHERIA (ANTITOXIN USED).

YEAR.	CASES.	DEATHS	PER CT.
1895	384	52	13
1896	905	106	11 7 10
1897	563	61	11
1898	646	68	10½
1899	718	70	8 77-100
1900	957	80	8 1 10

DIPHTHERIA (ANTITOXIN NOT USED).

YEAR.	CASES	DEATHS.	PER CT.
1895	937	221	23
1896	356	112	31
1897	406	76	19
1898	373	65	17½
1899	372	54	14 5-10
1900	430	63	14 6-10

DIPHTHERIA (CONTINUED).
REPORTED CASES BY MONTHS

January	186	July	168
February	136	August	84
March	99	September	74
April	78	October	153
May	65	November	221
June	78	December	165
	Total		1,417

VITAL STATISTICS.

These properly belong to the Board of Health, and are essential to its work. Midwives and undertakers, as well as physicians, should conform to a system of registration.

The following is a summary of the chief statistics kept :

1900.

Total Deaths	5 066
Tuberculosis	670
Diphtheria	143
Scarlet Fever	55
Typhoid Fever	50

BIRTHS

White	5 968
Colored	149
Total	6 117

Rate 24 85 per thousand.

MARRIAGES

White	2,417
Colored	60
Total	2,477

Rate 10 00 per thousand.

STILL BIRTHS.

White	263
Colored	31
Not Stated	9
Total	313

CLASSIFICATION OF CHIEF CAUSES OF DEATHS 1900.

CAUSE OF DEATH.	NUMBER OF DEATHS. WHITE	COLORED	TOTAL
Typhoid Fever	50	0	50
Malaria	16	0	16
Smal. Pox	1	0	1
Measles	56	2	58
Scarlet Fever	55	0	55
Whooping Cough	41	2	43
Diphtheria and Croup	139	4	143
Grippe	64	1	65

Dysentery	3	0	3
Other Epidemic Diseases	32	0	32
Purulent and Septicæmic Infection	34	1	35
Pulmonary Tuberculosis	583	20	603
Other Forms of Tuberculosis	72	1	73
Cancer	154	11	165
Other General Diseases	61	2	63
Meningitis	181	4	185
Cerebral Congestion and Hæmorrhage	256	4	260
Paralysis	55	1	56
Convulsions of Infants	132	9	141
Other Diseases of Nervous System	61	5	66
Organic Heart Diseases	229	7	236
Other Diseases of Circulatory System	128	2	130
Bronchitis, Acute and Chronic	117	3	120
Pneumonia and Broncho-Pneumonia	589	27	616
Other Diseases of Respiratory System	56	2	58
Diarrhœa and Enteritis—under two years	283	30	313
Diarrhœa and Enteritis two years and over	67	3	70
Hernias and Intestinal Obstruction	34	0	34
Peritonitis	32	0	32
Appendicitis	18	0	18
Other Diseases of Digestive System	265	2	267
Bright's Disease	306	13	319
Other Diseases of Genito Urinary System	39	0	39
Puerperal Septicæmia	21	1	22
Other Puerperal Diseases	30	0	30
Diseases of the Skin and Cellular Tissues	17	0	17
Diseases of Locomotor System	3	0	3
Hydrocephalus	7	0	7
Other Malformations	20	0	20
Infantile Diseases	101	16	117
Senile Debility	85	2	87
Suicide	47	0	47
Accidents	182	10	192
Ill-defined diseases	97	2	99
Total Deaths	4819	187	5006

THE FOLLOWING IS A TABLE OF THE DEATHS AT ALL AGES.

Under one month.	330
Between one month and one year	798
One to five years	639
Five to twenty years	332
Twenty to sixty years.	1,364
Over sixty years.	932
Undefined	11
Total.	5,006

YEAR	POPULATION	NO. OF DEATHS.	DEATH RATE.
1894	203,633	4,543	22 28
1895	215,725	4,616.	21 37
1896	225,000	4,716	20 96
1897	230 000	4,010	17 43
1898	235 000	4,303.	18 30
1899	240 000	4,537	18.90
1900	240 570	5,006	20 34

THE FOLLOWING TABLE GIVES THE DEATHS BY WARDS FOR 1900.

WARDS.	DEATHS.
1	491
2	206
3	359
4	215
5	377
6	627
7	281
8	190
9	210
10	361
11	343
12	325
13	361
14	381
15	263
Not stated	16
Total	5,006

INFECTIOUS DISEASES REPORTED BY WARDS

WARDS.	DIPHTHERIA, INCLUDING MEMBRANOUS CROUP	SCARLET FEVER	TYPHOID FEVER.	SMALL POX
1	67	34	24	0
2	55	30	8	0
3	117	95	15	0
4	46	11	10	0
5	55	31	37	0
6	127	65	29	3
7	115	36	21	0
8	84	33	8	0
9	54	39	15	6
10	84	98	29	0
11	143	67	20	6
12	63	42	28	0
13	164	41	17	0
14	130	50	30	0
15	125	45	30	1
Total	1419	710	321	15

Respectfully submitted,

EDWARD E. WORL, M. D.,
Supt. Bureau Contagious Diseases.

BACTERIOLOGICAL REPORT.

NEWARK, N. J., June 1, 1901

MR. DAVID D. CHANDLER,
Health Officer.

DEAR SIR

Herewith is respectfully submitted the report of the Bacteriological Division for the year ending December 31, 1900:

During the year there were 1,989 cultures examined from suspected diphtheria cases, of which 999 were found to contain the Kiebs-Loeffler bacillus. In other words, about fifty per cent of the suspected sore throats contained the germs of true diphtheria.

There were examined during the year 3,683 cultures, including the cultures sent in for diagnosis and those sent in to determine if premises, which had been placarded, were ready for disinfection

The total number of diphtheria cases reported in Newark for 1900 was 1,419, which seems higher than we should expect, considering the facilities provided by the Board of Health for diagnosing, treating and disinfecting such cases.

The great majority of the cases which come under observation are among children under twelve years of age, and a large percentage of them, as will be seen by the accompanying table, are such as may be found in the lower primary grades in our schools.

Many cases, it is true, occur in children under five years of age. These can scarcely be kept under observation by any general system of inspection, but children over five years old can usually be reached by school inspection, which has given very satisfactory results in other cities, and no doubt would be attended with equal benefit if instituted in Newark. The following table, consisting of 1,050 cases of diphtheria reported in Newark during 1900, in which the age of the patient was obtainable from the records, has some bearing on the school inspection question.

AGE	NUMBER OF CASES	AGE	NUMBER OF CASES	AGE	NUMBER OF CASES
1 year	56	14 years	14	27 years	4
2 years	82	15 "	12	28 "	1
3 "	117	16 "	3	29 "	5
4 "	115	17 "	9	30 "	6
5 "	113	18 "	9	31 "	6
6 "	98	19 "	4	32 "	1
7 "	96	20 "	8	33 "	2
8 "	81	21 "	6	34 "	2
9 "	44	22 "	9	35 "	2
10 "	46	23 "	3	40 "	6
11 "	37	24 "	7	50 "	1
12 "	23	25 "	1	60 "	0
13 "	19	26 "	2		

The above table deals only with diphtheria, but there is reason to believe that the records of scarlet fever and other communicable diseases would give similar results.

Systematic medical inspection of school children is a subject which has received earnest consideration from the Newark Board of Health in the past, but its introduction has been delayed. It is, however, of sufficient importance to merit further consideration, with the hope that the obstacles may be overcome.

DIPHTHERIA ANTITOXIN.

The amount of Diphtheria Antitoxin produced at the Laboratory during 1900 was 2,457 bottles of ten cubic centimeters each, an amount equal to about six gallons. Of this amount 1,815 bottles were used by physicians, and the balance is represented by what was used for testing and that on hand at the end of the year.

There have been 987 cases of diphtheria treated with the serum during the year, many cases receiving two and even more bottles of Antitoxin, with results given in the following table, which contains the same data for the preceding five years, as well as the record of cases in which Antitoxin was not used for the same period.

DIPHTHERIA RECORDS OF NEWARK FOR SIX YEARS, CONTRASTING ANTITOXIN AND NON-ANTITOXIN TREATED CASES.

ANTITOXIN USED				ANTITOXIN NOT USED			
YEAR	CASES	DEATHS	PER CT	YEAR.	CASES	DEATHS.	PER CT.
1895	384	52	13	1895	937	221	23
1896	905	106	12	1896	356	112	31
1897	563	61	11	1897	406	76	18
1898	646	68	10	1898	373	65	17
1899	798	70	8	1899	372	54	14
1900	987	80	8	1900	430	63	14

An interesting feature of the above figures is seen in the following table, where all of the diphtheria cases occurring in Newark for the last six years are grouped irrespective of treatment; showing that a decided reduction has taken place in the actual mortality for diphtheria since Antitoxin was introduced, even though the number of cases reported has not been reduced

TOTAL NUMBER OF CASES REPORTED IN NEWARK WITH RESULTS

YEAR	CASES.	DEATHS.	PER CENT.
[illegible]	1,321	273	20 +
[illegible]	1,261	215	17 +
[illegible]	996	37	14 +
[illegible]	1,019	133	13 +
[illegible]	1,170	134	11 +
[illegible]	1,417	143	10 +

The results of the use of Diphtheria Antitoxin as a remedy for diphtheria are now so fully recognized by the medical profession, as well as by the lay members of the community, that almost all of the prejudice against its use has been overcome. This prejudice was probably the most bitter, and the discussions and controversies to which it gave rise were the most deeply rooted, which the introduction of any new remedy has had to meet, with the possible exception of vaccination. To overcome this prejudice only time and experience seem sufficient, for even the personal observations of some of the most generally recognized medical authorities of international repute failed to succeed, though thousands of cases of diphtheria were laboriously investigated, and statistics of results were gathered from all parts of the world. Some members of the medical profession were so opposed to the innovation that nothing seemed too preposterous to be charged against Antitoxin. However, with experience and time have come [illegible] ment, and the general recognition that Diphtheria Antitoxin possesses intrinsic merits, which give it a place among remedial agents, which few, if any, of the various remedies used in medicine possess. After six years' experience with this remedy in Newark, during which time it has been administered in upward of four thousand cases, we find its use is increasing, and aside from the production of an occasional attack of Urticaria, no ill effects have followed its use. It seems to be generally conceded that no ill effects should be produced so long as the serum is carefully prepared.

TUBERCULOSIS.

The number of specimens of sputa received for examination for tubercule bacilli during the year was 1,003, in 380 of which the germs of consumption were found

There is an increase from year to year in the number of cases of this disease brought to the notice of the department, and this is true not only of Newark, but also of other cities where an attempt is made to keep such cases under observation.

The following analysis of the cases examined in the Newark Laboratory has been prepared by Dr. Robert C Ribbans, Assistant Bacteriologist of the Board ·

NEWARK, N. J , May 1901.

TO THE BACTERIOLOGIST.

DEAR SIR

Tuberculosis in our city is on the increase. Can it be explained why?

On examining the records for the past year, I find that we have examined more sputa than ever before, and have been a decided aid to the physician for early and positive diagnosis. It may be by giving the physicians prompt reports they are taking an interest and sending in more sputa for examination.

The people also begin to realize the importance of finding out the nature of their expectoration, so that they may be more careful, and not expose others to the infection.

Deaths from tuberculosis double the deaths of all other infectious diseases combined.

I have to report that there have been examined in this Laboratory during the year 1,003 cases. Of this number 380 were found to contain tubercle bacilli.

On cases in which the data was furnished,

20 cases the diagnosis was questionable
90 " " " " not given
50 " " " " some other pulmonary disease

No age is exempt from the ravages of this powerful and progressing disease

The ages tabulated are .

Females, 101 ; males, 179 ; arranged as follows

AGE.	FEMALE.	MALE.
1 10 years	2 cases	1 case
10–20 "	15 "	9 cases
20 30 "	36 "	71 "
30-40 "	33 "	56 "
40–50 "	10 "	28 "
50– "	5 "	14 "

We find about 20 per cent. of these cases either had tuberculosis in their families or have nursed cases of tuberculosis thus exposing themselves.

It has long been recognized that the habits and occupations of people have an important influence in predisposing them to the disease

From an examination of this table it will be seen that phthisis is comparatively rare among those who live an out-door life under normal and healthful conditions, and is comparatively common among those who live habitually indoors, and that it attains its maximum height among those whose occupation involves prolonged confinement in an impure atmosphere.

In 225 case we find that—

Indoor occupation cases were :

Male	129	Females.	53
Outdoor occupation			
Male	40	Female	0

OCCUPATION.	CASES
Agents (Insurance)	2
Astronomer.	1
Butchers	2
Blacksmiths	2
Bartenders	5
Brewer	1
Bookkeepers	3
Barber	1
Bootblack	1
Brass Moulder	1
Carpenters	2
Custodian	1
Clerks	20
Corset Manufacturer	1

Cooks	3
Carpenters	2
Clerks	1
Coal Dealer	1
Cutter (Cloth)	1
Cigar Manufacturers	2
Drivers	5
Druggists	2
Dressmaker	1
Engineer (Stationary).	1
Engineer (Civil).	1
Lieutenant	1
Fireman	1
Farmers	1
Gas Maker	1
Grocers	2
Housework	45
Hostler	1
Harness Maker	1
Hatters	3
Iron Filer	1
Instrument Manufacturer	1
Jewelers.	2
Japaners.	2
LaBorers (Miscellaneous)	5
Leather Worker.	1
Letter Carrier.	1
Machinists	2
Musician	1
Merchant	1
Messengers	2
Medical Men	2
Masons	2
Newspaper	1
Nurse	1
Night Watchman.	
Painter (House)	1
Oil Worker.	1
Paper Hanger	1
Peddler	1
Plumber	1

Polishers.	2
Paste Board Cutter.	1
Printer	1
Pressmen	3
Stevedore.....	1
Shipping Clerks. ...	2
Salesman .	1
Shopwoman	1
Shoe Manufacturer	1
Sexton	1
Student .	1
Stone Cutters.. ..	2
Shirt Manufacturers.	2
Teacher.....	1
Ticket Agent	1
Trainman	1
Tool Manfacturer	1
Typewriter	1
Tailors.	2
Thread Miller.. .	1
Telegrapher	1
Tanners.. .	3
Upholsterer.	1
Waiters	2
Watch Manufacturer	1

We have in our city to-day over 250 houses infected by cases of phthisis. These houses are located on 150 different streets.

Our means for examining the sputa are modern and when the bacilli are found it is positive diagnosis. We know to a certainty that a person has consumption. What can we do with them? May we soon have a revision of the ways of treating such patients and a special place provided for them, that they may have a chance to battle with such a dreadful enemy.

Very respectfully,

R. C RIBBANS, M D.
Assistant Bacteriologist.

BLOOD EXAMINATIONS

During the year 701 specimens of blood were examined for the Typhoid or Widal reaction, 256 of which gave a positive result.

A small number of the specimens, which produced the positive reaction, were found to be from persons who presented no clinical symptoms of typhoid fever, and to explain the result in such cases the following slip was prepared, and is sent to the physicians, together with the regular answer giving the result of the examination:

DEPARTMENT OF PUBLIC HEALTH

BACTERIOLOGICAL LABORATORY.

City Hospital Building, Fairmount Avenue.

Telephone No. 168.

Newark, N. J., 19

SERUM DIAGNOSIS OF TYPHOID FEVER

Dear Doctor,

The Widal or Typhoid reaction in a small percentage of cases persists in the blood for a number of years after an attack of Typhoid Fever, its presence alone, therefore, in the absence of clinical symptoms, does not warrant a diagnosis.

When, however, the reaction is present, together with clinical symptoms, the diagnostic value is very great. If, therefore, the clinical history of the above case indicates that it IS one of Typhoid Fever, you are requested to report the same in conformity to the rules of the Board of Health regarding reportable diseases

Respectfully,

Bacteriologist

WATER EXAMINATIONS

The city water supply has received attention during the year and frequent examinations were made to determine the number of bacteria present in samples obtained from various places on the watershed as well as from various points within the city limits. Special attention is always given to the presence of fermenting bacteria in the water, because we regard them as a fairly positive indicator of pollution. The methods used were described in the Annual Report of the Board for 1899.

The following table gives the results for 1900:

The sign (—) in the table means fermentation not produced

DATE	ORIGIN OF SAMPLE.	NO. OF BACTERIA PER	Glucose Broth						
			1/20	1/10	1/5	1/2	1 cc	5 cc	10 cc
Jan. 18, 1900	Oak Ridge stream, above Clinton stream	2400	—	—	+	+	+	+	+
Jan. 18, 1900	Clinton stream, above Oak Ridge stream	938		—	—	—	+	+	+
Jan. 18, 1900	Echo Lake stream, above Pequannock River	1820	+	+	+	+	+	+	+
Jan 18, 1900	Macopin Intake, inside gatehouse	975	—	—	—	+	+	+	+
Jan 18, 1900	Belleville Reservoir, outside gatehouse,	1134		+	+	+	+	+	+
Jan 18, 1900	Board of Health Office, rear room	882	—	—	—	+	+	+	+
Jan 18, 1900	Laboratory faucet, City Hospital	480	—	—	—			+	+
[illegible]	1900	Oak Bridge stream, above Clinton stream	1056	—	—	+	+	+	+
[illegible]	1900	Echo Lake stream above Pequannock River	1920	+	+	+	+	+	+
[illegible]	1900	Macopin Intake, inside gatehouse	910	—	+	+	+	+	+
[illegible]	1900	Belleville Reservoir, outside gatehouse	576			+	+	+	+
Feb. 9, 1900	Board of Health Office, rear room	960	—	—	+	+	+	+	+
Feb 9 1900	Laboratory faucet, City Hospital	1680			+	+	+	+	+
Mch 15, 1900	Oak Ridge stream, above Clinton stream,	905	—	—	+	+	+	+	+
Mch. 15, 1900	Clinton stream, above Oak Ridge stream	840	—	+	+	+	+	+	+
Mch 15 1900	Echo Lake stream, above Pequannock River	1020	—	+	+	+	+	+	+
Mch 15, 1900	Macopin Intake, inside gatehouse	760			+	+	+	+	+
Mch 15 1900	Belleville Reservoir, outside gatehouse,	930		—	—	+	+	+	+
Mch. 15, 1900	Board of Health Office, rear room	840	—	—	—	—	+	+	+
Mch 15, 1900	Laboratory faucet City Hospital	890					+	+	+

Apr 19, 1900	Oak Ridge stream, above Clinton stream	1395	—	—	+	+	+	+	+
Apr 19, 1900	Clinton stream above Oak Ridge stream	1185	+	+	+	+			
Apr 19, 1900	Echo Lake stream above Pequannock River	1130		+	+	+	+	+	+
Apr. 19, 1900	Macopin Intake, inside gatehouse.	2560	—	+	+	+	+	+	+
Apr. 19, 1900	Belleville Reservoir, outside gatehouse....	170	—	—	—	+	+	+	+
Apr. 19, 1900	Board of Health Office, rear room	145	—	—		—	+	+	+
Apr 19, 1900	Laboratory faucet, City Hospital.	158	—	—	—	—	—	+	+
May 24, 1900	Oak Ridge stream, above Clinton stream ..	1250	+	+	+	+	+	+	+
May 24, 1900	Clinton stream, above Oak Ridge stream ..	965	+	+	+	+	+	+	+
May 24, 1900	Echo Lake stream above Pequannock River	2530	+	+		+	+		+
May 24, 1900	Macopin Intake, inside gatehouse.	1975	—	+	+	+	+	+	+
May 24, 1900	Belleville Reservoir, outside gatehouse. ...	350	+	+	+	+	+	+	+
May 24, 1900	Board of Health Office, rear room	195	+	+	+	+	+	+	+
May 24, 1900	Laboratory faucet, City Hospital	120	—	—		+	+	+	+
June 22, 1900	Oak Ridge Stream, above Clinton stream...	1420	+	+	+	+	+	+	+
June 22, 1900	Clinton stream, above Oak Ridge stream...	760	—		+	+	+	+	+
June 22, 1900	Echo Lake stream, above Pequannock River	1830	+	+	+	+	+	+	+
June 22, 1900	Macopin Intake, inside gatehouse.	1290	+	+	+	+	+	+	+
June 22, 1900	Belleville Reservoir, outside gatehouse.....	530	—	+	+	+	+	+	+
June 22, 1900	Board of Health Office, rear room	260	—	+	+	+	+	+	+
June 22, 1900	Laboratory faucet, City Hospital	125	—	—		+	+	+	+
July 20, 1900	Oak Ridge stream, above Clinton stream ...	2900	+	+	+	+	+	+	+
July 20, 1900	Clinton stream, above Oak Ridge stream ..	5070	+	+	+	+	+	+	+
July 20, 1900	Echo Lake stream, above Pequannock River	4016	+	+	+	+	+	+	+
July 20, 1900	Macopin Intake, inside gatehouse...	668	+	+	+	+	+	+	+

The sign (+) in the table means fermentation produced

The sign (−) in the table means fermentation not produced

DATE	ORIGIN OF SAMPLE	NO. OF BACTERIA PER C. C.	Glucose Bouillon						
			1/20	1/10	1/5	1/2	1 cc	5 cc	10 cc
July 20, 1900	Belleville Reservoir, outside gatehouse. ..	432	−	+	+	+	+	+	+
July 20, 1900	Board of Health Office, rear room	632	−	+	+	+	+	+	+
July 20, 1900	Laboratory faucet, City Hospital	122	+	+	+	+	+	+	+
Aug. 27, 1900	Oak Ridge stream, above Clinton stream..	3965	+	+	+	+	+	+	+
Aug. 27, 1900	Clinton stream, above Oak Ridge stream ..	1635	−	−	+	+	+	+	+
Aug 27, 1900	Echo Lake stream, above Pequannock River	8600	+	+	+	+	+	+	+
Aug. 27, 1900	Macopin Intake, inside gatehouse..	1730	+	+	+	+	+	+	+
Aug 27, 1900	Belleville Reservoir, outside gatehouse ...	255	−	+	+	+	+	+	+
Aug. 27, 1900	Board of Health Office, rear room	240	−	−	+	+	+	+	+
Aug 27, 1900	Laboratory faucet, City Hospital	405	−	−	−	+	+	+	+
Sept 6, 1900	Oak Ridge stream, above Clinton stream .	1120	+	+	+	+	+	+	+
Sept. 6, 1900	Clinton stream, above Oak Ridge stream.	1030	+	+	+	+	+	+	+
Sept. 6, 1900	Echo Lake stream, above Pequannock River	1400	−	−	−	−	+	+	+
Sept. 6, 1900	Macopin Intake, inside gatehouse	1230	−	−	+	+	+	+	+
Sept 6, 1900	Belleville Reservoir, outside gatehouse	430	+	+	+	+	+	+	+
Sept 6, 1900	Board of Health Office, rear room	470	−	+	+	+	+	+	+
Sept 6, 1900	Laboratory faucet, City Hospital	128	−	−	−	−	−	+	+
Sept. 13, 1900	Oak Ridge stream, above Clinton stream...	1225	+	+	+	+	+	+	+
Sept 13, 1900	Clinton stream, above Oak Ridge stream .	1040	+	+	+	+	+	+	+
Sept. 13, 1900	Echo Lake stream, above Pequannock River	1720	+	+	+	+	+	+	+

Sept 13, 1900	Macopin Intake, inside gatehouse	1430	+	+	+	+	+	+	+
Sept 13, 1900	Belleville Reservoir, outside gatehouse....	455		—	+	+	+	+	+
Sept. 13, 1900	Board of Health Office, rear room.....	310	—		—	—	+	+	+
Sept. 13, 1900	Laboratory faucet, City Hospital	105	—	—	—	—	—	+	+
Sept 20, 1900	Oak Ridge stream, above Clinton stream..	1530	+	+	+	+	+	+	+
Sept. 20, 1900	Clinton stream, above Oak Ridge stream...	1105	+	+	+	+	+	+	+
Sept 20 1900	Echo Lake stream, above Pequannock River	1425	+	+	+	+	+	-	+
Sept. 20, 1900	Macopin Intake, inside gatehouse	1320	+	+	+	+	+	+	+
Sept 20, 1900	Belleville Reservoir, outside gatehouse.....	530	—	—	—	+	+	+	+
Sept. 20, 1900	Board of Health Office, rear room..	425	—	+	+	+	+	+	+
Sept. 20, 1900	Laboratory faucet, City Hospital...	110	—	—	—	—	—	+	+
Sept. 27, 1900	Oak Ridge stream, above Clinton stream ..	1490	+	+	+	+	+	+	+
Sept 27, 1900	Clinton stream, above Oak Ridge stream...	1160	—	—	+	+	+	+	+
Sept. 27, 1900	Echo Lake stream, above Pequannock River	1620	+	+	+	+	+	+	+
Sept 27, 1900	Macopin Intake, inside gatehouse.	1230	—	+	+	+	+	+	+
Sept. 27, 1900	Belleville Reservoir, outside gatehouse. ...	360	+	+	+	+	+	+	+
Sept. 27, 1900	Board of Health Office, rear room.....	280	+	+	+	+	+	+	+
Sept 27, 1900	Laboratory faucet, City Hospital....	110	—	—	+	+	+	+	+
Oct. 4, 1900	Oak Ridge stream, above Clinton stream...	1430	+	+	+	+	+	+	+
Oct. 4, 1900	Clinton stream, above Oak Ridge stream...	760	+	+	+	+	+	+	+
Oct 4, 1900	Echo Lake stream, above Pequannock River	1160	+	+	+	+	+	+	+
Oct. 4 1900	Macopin Intake, inside gatehouse.....	980	+	+	+	+	+	+	+
Oct. 4, 1900	Belleville Reservoir, inside gatehouse. ...	550		+	+	+	+	+	+
Oct 4, 1900	Board of Health Office, rear room....	240	—	—	+	+	+	+	+
Oct 4, 1900	Laboratory faucet, City Hospital.....	110	—	—	—	+	+	+	+

This sign (+) in the table means fermentation produced

This sign (−) in the table means fermentation not produced

DAYS.	ORIGIN OF SAMPLE.	NO. OF BACTERIA PER C. C.	Amount of water showing fermentation in Glucose Bullion						
			1/10	1/10	1/5	1/2	1 cc	5 cc	10 cc
Oct. 12, 1900	Oak Ridge stream, above Clinton stream ..	8190	+	+	+	+	+	+	+
Oct. 12, 1900	Clinton stream, above Oak Ridge stream...	860	−	−	−	+	+	+	+
Oct. 12, 1900	Echo Lake stream, above Pequannock River	820		−	+	+	+	+	+
Oct 12, 1900	Macopin Intake, inside gatehouse..... ..	1090	−	+	+	+	+	+	+
Oct. 12, 1900	Belleville Reservoir, inside gatehouse	430	−	+	+	+	+	+	+
Oct. 12, 1900	Board of Health Office, rear room	270	−	−	+	+	+	+	+
Oct 12, 1900	Laboratory faucet, City Hospital...	90	−	−		−	−	+	+
Nov 1, 1900	Oak Ridge stream, above Clinton stream..	1221	−	+	+	+	+	+	+
Nov. 1, 1900	Clinton stream, above Oak Ridge stream .	760	−	−	−	+	+	+	+
Nov 1, 1900	Echo Lake stream, above Pequannock River	1020	−	−	+	+	+	+	+
Nov. 1, 1900	Macopin Intake, inside gatehouse.....	940	−	+	+	+	+	+	+
Nov. 1, 1900	Belleville Reservoir, inside gatehouse.. ...	560	−	+	+	+	+	+	+
Nov 1, 1900	Board of Health Office, rear room.....	370	−	−	+	+	+	+	+
Nov. 1, 1900	Laboratory faucet, City Hospital.....	90	−	−	−	+	+	+	+
Nov. 8, 1900	Oak Ridge stream, above Clinton stream...	1530	−		+	+	+	+	+
Nov. 8, 1900	Clinton stream, above Oak Ridge stream..	1040	+	+	+	+	+	+	+
Nov 8, 1900	Echo Lake stream, above Pequannock River	1290			+	+	+		+
Nov. 8, 1900	Macopin Intake, inside gatehouse.....	1160	+	+	+	+	+	+	+
Nov 8, 1900	Belleville Reservoir, inside gatehouse	[illegible]		+	+	+	+	+	+
Nov. 8, 1900	Board of Health Office, rear room..	270	+	−	+	+	+	+	+
Nov 8, 1900	Laboratory faucet, City Hospital..... .	130	−	−	−	+	+	+	+

Nov. 15, 1900	Oak Ridge stream, above Clinton stream.	1320	..	—	+	+	.	.	+
Nov. 15, 1900	Clinton stream, above Oak Ridge stream...	970	—	—	+	+	+	+	.
Nov. 15, 1900	Macopin Intake, inside gatehouse..... ...	1830	+	+	+	+	+	+	+
Nov. 15, 1900	Belleville Reservoir, inside gatehouse... ..	570	—		+	+	+	+	+
Nov. 15, 1900	Board of Health Office, rear room.... ...	430	—	—	—	—	—	+	+
Nov. 15, 1900	Laboratory faucet, City Hospital . . .	130	—	—	—	—	—	+	+
Nov. 22, 1900	Oak Ridge stream, above Clinton stream	1420		+	-	-	+	-	+
Nov. 22, 1900	Clinton stream, above Oak Ridge stream...	920	—	—	+	+	+	+	+
Nov. 22, 1900	Macopin Intake, inside gatehouse..... ...	1340	—	—	—	+	+	+	+
Nov. 22, 1900	Belleville Reservoir, inside gatehouse.....	370	+	+	+	+	+	+	.
Nov. 22, 1900	Board of Health Office, rear room..	270	+	+	+	+	+	+	-
Nov. 22, 1900	Laboratory faucet, City Hospital.....	210	—	—	—		—	+	+
Nov. 30, 1900	Oak Ridge stream, above Clinton stream...	1375		—		+	+	+	
Nov. 30, 1900	Clinton stream, above Oak Ridge stream ..	1030	—	—		—	+	+	-
Nov. 30, 1900	Echo Lake stream, above Pequannock River	960	—		+	+	+	+	+
Nov. 30, 1900	Macopin Intake, inside gatehouse.	1215	—	—	—	—	+	+	
Nov. 30, 1900	Belleville Reservoir, inside gatehouse.....	730	—	+	+	+	+	+	+
Nov. 30, 1900	Board of Health Office, rear room.....	440	—		+	+	+	+	+
Nov. 30, 1900	Laboratory faucet, City Hospital.....	280	—	—	+	+	+	+	+
Dec. 6, 1900	Oak Ridge stream, above Clinton stream..	1280	+	+	+	+	+	+	+
Dec. 6, 1900	Clinton stream, above Oak Ridge stream ..	1120		+	+	+	+	+	+
Dec. 6, 1900	Echo Lake stream, above Pequannock River	870	—	—	+	+	+	+	.
Dec. 6, 1900	Macopin Intake, inside gatehouse.	1250	+	+	+	+	+	+	+
Dec. 6, 1900	Belleville Reservoir, inside gatehouse	790		+	+		+	+	+
Dec. 6, 1900	Board of Health Office, rear room.	560	—	—	+	+	+	+	+

This sign (+) in the table means fermentation produced

This sign (—) in the table means fermentation not produced

DAYS	ORIGIN OF SAMPLE.	NO. OF BACTERIA PER C. C.	Amount of Water Containing Glucose Bouillon						
			1/10	1/10	1/5	1/5	1 cc	5 cc	10 cc
Dec 6, 1900	Laboratory faucet, City Hospital	340	—	—	+	+	+	+	+
Dec 13, 1900	Oak Ridge stream, above Clinton stream ..	1320	—	+	+	+	+	+	+
Dec. 13, 1900	Clinton stream, above Oak Ridge stream..	970	—	—	+	+	+	+	+
Dec 13, 1900	Echo Lake stream, above Pequannock River	820	—	—	—	+	+	+	+
Dec 13, 1900	Macopin Intake, inside gatehouse.	1310	—	+	+	+	+	+	+
Dec. 13, 1900	Belleville Reservoir, inside gatehouse.....	560	—	+	+	+	+	+	+
Dec 13 1900	Board of Health Office, rear room	420	—	+	+	+	+	+	+
Dec. 13, 1900	Laboratory faucet, City Hospital...	210	—	—	—	+	+	+	+
Dec 20, 1900	Oak Ridge stream, above Clinton stream...	525	—	—	—	+	+	+	+
Dec. 20, 1900	Clinton stream, above Oak Ridge stream .	420	—	-	—	+	+	+	+
Dec 20, 1900	Macopin Intake, inside gatehouse.....	730	—	—	+	+	+	+	+
Dec. 20, 1900	Belleville Reservoir, inside gatehouse.....	210	—	—	+	+	+	+	+
Dec. 20, 1900	Board of Health Office, rear room	185	—	—	—	—	—	+	+
Dec. 20, 1900	Laboratory faucet, City Hospital.....	40	—	—	—	—	+	+	+
Dec 27. 1900	Oak Ridge stream, above Clinton stream .	930	—	—	+	+	+	+	+
Dec. 27, 1900	Macopin Intake, inside gatehouse.....	820	—	—	+	+	+	+	+
Dec. 27, 1900	Belleville Reservoir, inside gatehouse ...	420	—	—	—	—	+	+	+
Dec 27. 1900	Board of Health Office rear room	390	—	—	—	+	+	+	+
Dec. 27, 1900	Laboratory faucet, City Hospital.	80	—	—	—	—	—	+	+

DISINFECTION TESTS

During the year there have been made 1,804 disinfection tests. These tests consist of exposing living germs of known and easily identified characters in the room while disinfection is being carried on, and the germs are afterward tested to determine if they are alive.

The germs used are from recent cultures of Bacillus Prodigiosus, which produces a deep red color, and, consequently, easily identified if brought back to the Laboratory alive.

The method used in Newark is as follows: A small bit of cotton is wrapped around the end of a wire making a swab, such as is used in taking cultures from suspected throats. This swab is dipped in a fresh culture of the selected germ, and is then placed in a clean glass culture tube. When the inoculated cotton has dried it is removed from the glass tube and covered with a piece of gauze in such a manner that several layers of gauze cover the germs while exposed to the action of the disinfecting gas. The swabs are placed in the room at a distance from the place where the gas is introduced and afterwards returned to their respective tubes, which are numbered. They are then brought to the Laboratory, where the swabs are introduced into culture medium, and the resulting growth, if any is produced, is examined for the red colonies of P. Prodigiosus. The method has served a double purpose; it shows the value of the gas used to disinfect the premises, and as none of the disinfecting inspectors desire to have the germs come back to the Laboratory alive after their work it has produced a certain amount of personal pride in the Disinfecting Corps.

The value of these tests may be determined by the fact, that when they were first started, two years ago it was not unusual to have five per cent., or even more of the specimens, come back alive, while at the present time it is very unusual to find one in several hundred.

LABORATORY RECORD FOR 1900 GIVING NUMBER OF EXAMINATIONS

	Jan.	Feb.	Mar	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Diphtheria Examinations.													
Primary cultures	225	233	182	180	116	116	111	69	98	167	248	254	1,699
True cases	113	89	59	53	42	60	76	43	60	99	174	131	999
Primary and secondary cultures	441	435	253	261	18	206	233	103	159	320	49	472	3,083
Diphtheria Antitoxin													
No. of vials produced	395	250	0	312	0	284	0	0	0	347	486	483	2,557
No. of vials used by physicians	2	212	72	94	75	55	73	89	84	241	248	244	1,585
Tuberculosis Examinations													
Tubercle Bacilli found	35	39	30	31	29	29	25	31	30	34	37	30	380
Tubercle Bacilli not found	44	50	61	63	43	49	31	33	49	62	51	65	643
Typhoid Blood Examinations.													
Positive reactions	8	4	4	8	23	28	22	40	37	25	29	28	256
Suspicious reactions	2	2	0	0	3	5	2	4	5	11	11	1	46
Negative reactions	29	25	24	31	30	37	27	46	67	27	31	25	399
Water Examinations													
Number of specimens	7	7	7	7	8	7	11	11	23	18	30	25	167
							1 milk	4 ice					1 milk, 4 ice
Disinfection test	270	179	165	140	121	121	109	88	116	135	215	193	1,804

The preceding table gives the work of this division for 1900 as far as it could be classified. There are many examinations made for physicians from time to time, which do not come within the scope of the routine work, such as various discharges and excretions, no record of which is kept; but the aid given to physicians is evidently appreciated, and such work serves to increase the usefulness of the Laboratory.

Very respectfully,

RICHARD N. CONNOLLY, M. D.,
Bacteriologist

CHEMIST'S REPORT.

To David D. Chandler,

Health Officer

Dear Sir—I herewith submit my annual report for the year ending December 31, 1900:

As heretofore, the principal work of this department has been the examination of milk and well water.

MILK.

The system of milk inspection has been continued as in the past few years, and the taking of promiscuous samples for analysis without regard to supposed quality has been productive of a better general grade of milk than we had several years ago, when only samples falling below the lactometer standard were taken.

The moral effect of the system is good, as most milkmen are glad to have their milk examined and take pride in having it give a good analysis, while others think it good policy to keep a fair quality of milk, as they know that the finding of a bad sample would bring them under close observation.

MILK ANALYSIS.

There were 283 samples of milk analyzed, more than a fourth more than last year. The analyses of these samples have been tabulated as before and are given in the following table:

CLASSIFIED TABLE OF MILK ANALYSES

Samples having a percentage of total solids above 12 50.

Average for solids 13.24. Average for fat 4 057

Solids	Fat	Solids	Fat	Solids	Fat	Solids	Fat	Solids	Fat	Solids	Fat
13 90	4.35	13.49	3.85	13.24	4.00	13.60	4.70	12.59	3.65	12.90	4.35
14 07	4.15	12.83	3.80	12.94	3.90	12.59	3.70	12.80	4.20	12.79	3.80
12 76	3.70	12.85	3 90	12 85	3.60	12.55	3.95	13.28	4.40	12.94	4 00
14 81	6.60	12 91	3.80	12.90	4.15	13.85	4 10	12.98	4 00	12.69	3.80
14.33	5.20	13.29	3.90	13.57	4.10	13 45	4.40	13.14	4.10	12 78	3 75
14 20	4 95	13.64	4.60	13 78	4.60	13.28	4.30	13.24	4 00	12 97	3 80
13 37	3.80	12 77	3 50	12.77	3.65	13.34	4.00	12 78	3.80	13 27	4 55
12.62	3 45	13.31	4.15	13.23	3 55	13 61	4.80	13 72	4.80	12 89	3.80
13.88	4 40	12 65	3.70	12.82	4 00	12 81	3.75	12 76	4 00	13 16	4.20
13.66	4.05	12.77	3.80	13 45	4.35	13 15	4.00	13.18	4 00	13.41	4.40
13 31	4.35	14.50	4 60	13.11	4.00	12 52	3 60	13.49	4.90	12.96	3 80
14.14	3 90	13.16	3 75	12.91	3.90	12.59	3 80	12.66	3 85	13 46	3.95
13.22	3 90	12 77	3 45	12 50	3.40	12.82	3.75	13.14	4.50	13 12	4.20
12.52	3 20	12.59	3.45	13.64	4.20	14 07	5.40	12.54	3.75	12 61	3 55
14 03	4.40	13.40	4.10	13.28	3.85	13.09	3.76	12 58	2.50	13.05	4.00
13.16	3.90	12.67	3 60	13.29	4.30	13 35	4.10	12.99	4 20	13 59	4.60
13.53	3.60	14.22	4.95	13.02	4.20	13.57	4 75	13.25	4 35	12 67	3.00
13.24	4 00	13 77	4.75	12 60	3.80	12.71	4 05	12.99	4.15	14 38	5.45
12.94	3.50	13.86	4.70	12.79	4.00	12.51	3.70	12.54	3.40	12 89	3.50
13 45	4.10	13.21	4 00	12.58	3.70	13.09	4 25	12 90	3 90	12 90	3 75
13.47	4 10	12.60	3.60	12 70	3.60	13.42	4.35	13 19	3 75	12.57	3.50
13.11	3 85	12.54	3.65	13.44	4.20	14.97	6.75	12 98	3.85	12.70	3.60
13.82	4 40	12.69	3.80	13 12	3.90	13.69	4.70	12.65	3.55	14.01	4 60
12.86	3 00	13.40	4.15	12.86	3.85	13.24	4.20	13 50	4 05	13.35	4 15
13 69	4 35	13 62	4 20	13 87	4 40	12 85	3 90	13 20	4 10	12 74	3 80
12.68	3 75	12.75	3 75	12.77	3.65	14 51	4 25	13.67	4 10	13.87	4 30
13 25	4.20	13.02	4 25	12 91	3.65	13 11	5 20	13.38	4 00	13.90	4.40
13.24	4.25	13.56	4.15	12 82	3.70	12.33	3.90	12.80	3.55	12.53	3.40
12.80	3 50	12 94	4 00	13 29	3 90	13 20	3 80	12 60	4 20	12 52	3 40
16.11	6.50	13.13	4 20	13.27	4.10	12.60	3.50	13.12	3.90	13 22	6.10
12.67	3.30	12 92	4.10	13 17	3.80	13 23	4.20	13 10	4.00		

CLASSIFIED TABLE OF MILK ANALYSES

Samples having a percentage of Total Solids between 12.50 and 12.00

Average for Solids 12.25. Average for Fat 3.562.

Solids	Fat	Solids	Fat	Solids	Fat	Solids	Fat	Solids	Fat	Solids	Fat
12 76	3 80	12 25	3 20	12 1[illegible]	3 40	12 05	3 2[illegible]	12 05	3 30	12 02	3 55
12 49	3 [illegible]	12 4[illegible]	3 [illegible]	12 27	3 2[illegible]	12 05	3 [illegible]	12 08	3 15	12 06	3 80
12 02	3 10	12 02	4.00	12 09	3.60	12 12	3 55	12 14	3.65	13 45	3.70
12 48	4 [illegible]	12 41	3 4[illegible]	12 11	3 4[illegible]	12 28	3 9[illegible]	12 38	3 [illegible]	12 21	3 50
12 43	3 60	12.44	4 00	12.21	3 25	12.05	2 75	12.42	3.65	12.42	3.60
12 13	3 [illegible]	12 3[illegible]	3 6[illegible]	12 32	3 4[illegible]	12 31	3 [illegible]	12 4[illegible]	3 [illegible]	12 45	4 [illegible]
12 24	3 75	12 18	3 [illegible]	12 31	3 [illegible]	12 [illegible]	3 55	12 25	3 [illegible]	12 13	3 [illegible]
12.24	3.10	12.08	3.30	12 13	3.40	12.01	3.15	12.20	3.57	12 12	3.55
12 29	3 65	12 29	3.50	12.47	3.75	12.23	3.80	12 40	3 80	12.34	3.90
12.03	3 75	12 16	3.90	12.01	2.80	12 33	4.20	12.39	3.60	12.32	3.70
12.49	4.00										

CLASSIFIED TABLE OF MILK ANALYSES

Samples having a percentage of total solids below 12.00.

Average for solids 11.561. Average for fat 3.253

Solids	Fat	Solids	Fat	Solids	Fat	Solids	Fat	Solids	Fat	Solids	Fat
11.38	3.55	11.72	3.55	11.86	3.30	11.37	2.75	11.95	3.80	11.55	2.90
11.42	2 90	11.99	3.25	10.81	3.10	11.60	3.10	11.84	3 30	11.95	3.50
10.99	2 80	11 87	3.60	11.63	3.10	11 65	3.50	10 96	2 70	11.44	3 20
11.95	3 70	11.85	3.15	11.07	3.15	11 87	2 90	10.62	3.00	11.85	3.20
10 99	2 65	11 91	3.30	11.74	3 40	11.53	3 50	11 61	3 80	11.89	3 60
11.55	3.20	11.89	3.25	11.17	3.75	11.87	3.50	11 94	3 20	10.69	2 40
11.78	3.70										

The same arrangement and divison into the three classes has been retained, and a comparison of the results with those of former years shows that there are a few less in the first class and a few more in the second. However, the general average for total solids (12.77 %) and for fat (3.85 %) shows a gain over last year.

The uniformity between the averages in the three classes from year to year is quite marked, and the average of 13.24 per cent of total solids for three years out of four is a striking coincidence, which is none the less satisfactory.

The comparative table in last year's report has been continued to date.

COMPARISON TABLE.

		1897	1898	1899	1900
Year					
Number of samples analyzed		136	178	221	283
1st class	Percentage of samples	69 12	70.22	72.40	65.37
	Average % of total solids	13.24	13.24	13.06	13.24
	Average % of fat			3.95	4.06
2d class	Percentage of samples	21.32	14.15	15 38	21.55
	Average % of total solids	12.23	12.35	12 27	12.25
	Average % of fat			3 60	3 56
3d class	Percentage of samples	9.56	15 73	12.22	13 07
	Average % of total solids	11.61	11.58	11.48	11.56
	Average % of fat			3 11	3 25
General average % of total solids		12 87	12 82	12 75	12 77
General average % of fat				3 80	3 85

MILK BELOW THE STANDARD.

It will be noticed in the above table that the lowest average for the milks below standard for the four years is 11.48 per cent. of solids and 3 11 per cent. of fat, and that of the thirty seven milks falling in this class for the past year only five were below 11 per cent of total solids, the lowest one containing 10 69 per cent of solids and 2 40 per cent. of fat

To any one familiar with the condition of the milk sold in this city ten years ago this seems a remarkable improvement At that time, and even since, the total solids of the majority of samples falling below the standard were less than 11 per cent., many were under 9 per cent. and 8 per cent., and some below 7 per cent.

The reason for this great change is mainly due to the almost entire stoppage of the former frequent adulterations by small producers and small dealers Now, the most of the milk below the standard is shipped into the city by the large wholesale dealers This milk, as already pointed out, is only a little below the 12 per cent. of total solids required by law and has, as a rule, a very fair amount of fat, generally over 3 per cent and averaging for this year 3.25 per cent.

This condition of affairs is rather significant and tends to support the theory that the "intelligent" sophistication of milk by the large producers is on the increase.

PRESERVATIVES IN MILK.

Notwithstanding the continued use of preservatives in other parts of the State, as shown by the official reports, their use here is now very limited. Of all the milk samples examined this year only two contained formaldehyde

CONDENSED MILK.

Five samples of condensed milk were analyzed, with the following results

Total Solids.	66 71	64 87	67.85	66 44	40.25*
Fat.	9.19	8.23	7.05	7.10	10.00
Ash			2.24	1.67	

* Unsweetened

These samples proved to be of good quality, but the practice of using skim or partially skimmed milk to condense is not uncommon and according to analyses made by other Boards of Health, many of these milks thus adulterated contain only a fraction of one per cent of fat The necessity seems obvious, therefore, for a more general inspection of this article.

WELL WATER

There were twenty-seven samples of well water examined during the year. Twenty two of these were found to be contaminated and five were marked suspicious

Although the number is gradually being reduced, there still exist many surface wells in the city which are a menace to the health of those who use them. This fact is repeatedly established every year, when the investigation of a typhoid fever case results in the discovery of a well on or near the premises which the patient has used

Since the large reduction of the typhoid fever death rate in the city by the use of a pure water supply, practically all of the cases of that disease have their origin in out of town sources or polluted wells.

Newark has a comparatively low typhoid rate, which would certainly be still lower if every surface well in the city were closed

The comparative table of typhoid death rates given in former years has been continued to date.

TYPHOID FEVER DEATH RATE PER 100,000 INHABITANTS.

Year	NEWARK. Deaths	Rate	Source of Water Supply	JERSEY CITY. Deaths	Rate	Source of Water Supply	PATERSON. (c) Deaths	Rate	Source of Water Supply
1889	153	90.0	Passaic River at Belleville	123	....	Passaic River at Belleville	19	25.2	Passaic River at Paterson Falls
1890	114	62 8	"	148	90.8	"	18	23.	"
1891	186	96 4	"	158	94.5	"	18	22 7	"
1894	81	42.1	(a) Pequannock river	90	52.4	"	15	18 2	"
1893	44	22.2	"	105	59 8	"	33	38.	"
1894	34	16.6	"	119	66 1	"	28	30.6	"
1895	50	23.1	"	134	73 6	"	21	21 6	"
1896	47	20.9	"	114	60 9	(b) " Pequannock River	47	46.3	"
1897	33	14.4	"	41	21.4	(b) See Foot Note	49	46.5	"
1898	41	13.2	"	71	36 3	(b) "	35	32.	"
1889	66	27 5	"	30	15.0	(b) "	34	29.7	"
1900	50	20.	"	44	21.3	Passaic River at Little Falls	49	40 8	(d) "

(a) Newark abandoned Passaic River water in April, 1892.

(b) during 1896 Jersey City got about one-third of its supply from the Pequannock River. The Passaic water from Belleville was abandoned in 1897, and from then until the Fall of 1899 the supply came from the Pequannock supplemented by water from the Passaic at Paterson Falls, when that part of the supply from Paterson Falls was abandoned in favor of Little Falls

(c) For years ending Feburary 28th

(d) Paterson changed its source of water supply to Little Falls December 7th, 1899

CITY WATER

Regular monthly examinations of the city water have been made throughout the year and very little change in its character noticed The color and turbidity are at times considerably increased by freshets or other causes, but the chemical composition changes but little. The minimum and maximum amount of total solids for the year being respectively 1 96 and 3 06 grains per gallon, with an average of 2.53.

The water is of excellent quality, but it would be much better appreciated by the people and often be more palatable if the color and turbidity could be removed.

All the samples in the following table were taken from the laboratory faucet, 906 Broad street.

ANALYSES OF NEWARK AQUEDUCT WATER

(Parts per 100,000)

Date 1900	Free Ammonia	Albuminoid Ammonia	Chlorine	Nitrogen as Nitrites	Nitrogen as Nitrates	Temporary Hardness (alkalinity.)	Total Solids	Loss on Ignition	Fixed Mineral Matter	Color	Temperature F°
January 21	[illegible]	.01250	2	trace	0160	2 20	5 90	1 70	3 30	32	38
February 21...	0045	.0102	.22	none	0110	1.60	4.40	1.75	2.65	.25	36
March 21 ..	0023	.0100	.20	trace	.0120	1.90	3.85	1 80	2 05	.22	37
April 21	0030	.0115	.20	trace	.0080	1.80	5.25	2 00	3.25	.24	52
May 21	0026	0148	.12	none	.0080	1 90	4 30	2.00	2 30	28	67
June 21	0012	.0132	.20	trace	.0080	2.50	4.90	2 00	2.90	.20	67
July 21	0031	.0145	.20	trace	.0200	2 90	4.35	2.35	2.00	.28	79
August 21	0010	.0130	.15	trace	0200	1.60	3 35	1.75	1.60	.35	69.5
September 21	0030	[illegible]	15	none	trace	1 30	3 [illegible]	2 [illegible]	1 [illegible]	25	[illegible] 5
October 22....	.0018	.0170	.20	trace	.0150	2 40	4.75	2.50	2 25	.46	55.5
November 22 .	.0016	.0110	.15	none	0120	2.50	4.85	2 45	2.40	.28	66 5
December 21	0020	0[illegible]	15	none	0[illegible]	2 50	4 50	1 50	3 00	30	3
Average											
1900	.00242	0137	.181	trace	.0142	2.092	4.433	1.991	2.442	.286	56
1899	.00226	.0128	.167	trace	.0097	1.7 1	4.457	1.878	2 514	305	45.8
1898	0026	.0150	.142	trace	.0129	.....	4.42	2.05	2 37	.348	.
1897	.0022	.0141	.133	trace	0112	.....	4.12	1 99	2.13	30	

Very respectfully,

HERBERT B. BALDWIN, Chemist.

[Table No I.]

BIRTHS REPORTED DURING YEAR 1900

Color		Sex			Nativity of Parents									Name of Child.		Legitimacy		
									Nativity of Father only Stated		Nativity of Mother only Stated.							
White.	Colored.	Male	Female	Not Stated,	Native	Foreign.	Foreign Father only	Foreign Mother only.	Native.	Foreign	Native	Foreign.	Not Stated	Stated	Not Stated.	Legitimate.	Illegitimate	Total
5966	149	3176	2933	8	2520	2611	527	384	6	9	31	18	11	4948	1169	6014	52	6117

STILL BIRTHS REPORTED.

Sex.			Father.			Mother.			Color.			
Male.	Female	Not Stated.	Native.	Foreign.	Not Stated.	Native.	Foreign.	Not Stated.	White.	Colored.	Not Stated.	Total
175	115	23	142	150	21	148	148	17	283	21	9	313

[Table No. II.]

MARRIAGES REPORTED

Nativity																							
White		Colored		Native		Foreign		Not Stated		First Marriage		Second Marriage		Third Marriage		Fourth Marriage		Not Stated					
Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.				
2417	2410	6	11	1432	1501	1053	955	3	21	2	6	3	7	264	237	22	14	2	0	53	139	24	7

[Table No. III.]

NATIVITY OF DECEDENTS

United States	3 420
Germany	615
Ireland	476
England	112
Italy	111
Scotland	46
Austria	38
Poland	24
Russia	25
Hungary	18
France	17
Sweden	10
Switzerland	9
Canada	9
Denmark	5
Bohemia	3
China	2
Norway	2
Wales	1
West India	1
Finland	1
Bovaria	1
Roumania	1
Not Stated	59
Total	5 000
Native Born	3.420
Foreign Born	1.527
Not Stated	59

[Table No. IV.]

DEATHS IN INSTITUTIONS AND PUBLIC PLACES.

St. Michael's Hospital	277
City Hospital	207
St. Barnabas' Hospital	84
Essex County Hospital for Insane	75
German Hospital	72
Babies' Hospital	57
St James' Hospital	43
Alms House	42
Little Sisters of the Poor	34
Passaic River	7
Police Ambulance	4
Home for Crippled Children	3
Essex County Jail	2
Women's and Children's Hospital	2
Power House	2
Women's Hospital	1
Eighth Avenue Day Nursery	1
Home for Aged Colored	1
Isolation Hospital	1
House of the Good Shepherd	1
Public Library Building	1
Prudential Building	1
Home for Aged Women	1
Branch Brook Park (Lake)	1
Branch Brook Park	1
St. Mary's Church	1
Woodland Cemetery	1
Malt House	1
Morris Canal	1
Newman's Factory	1
Ferry Street Depot	1
Chestnut Street Depot	1
Park House	1
American House	1
Sites' Stables	1
Total	931

[Tables Nos V and VI]

WELLS RECORDED

Location of Wells.	Sample No.	Kind and Depth.	For Manufct'g or Domestic Purposes.	Privy Vaults and Cesspools within. 30 Feet.	50 Feet	100 Feet	Results of Analysis.
		Feet					
Vanderpool Street, 199½	767	Pump 12	Domestic		3 P V	....	Contaminated
Oliver Street, rear, 175	768	Pump	"	1 C. P 1 P. V	....	....	Contaminated
Union Street, 95	769	Bucket	"	2 P. V	....	....	Contaminated
Mechanic Street, 88	770	Pump 30	"	.....	....	..	Contaminated
William Street, 50	771	Pump 24	"	.....	....	...	Contaminated
Thomas Street, 9 and 11	772	Bucket 30	"	....	....	..	Contaminated
Clay Street, 95	773	Pump 20	"	....		...	Contaminated
Bergen Street, 10 and 12	774	Bucket	"	.....	1 P.V	...	Contaminated
Stone Street, 81	775	Bucket 35	"	....	..	....	Contaminated
Napoleon Street, 72 and 74	776	Bucket 20		1 P V			Very badly contaminated
Hunterdon Street, 14	777	Bucket					Contaminated
Hamburg Place, 31	778	Pump	"	1 C. P	1 P V	....	Contaminated
Barbara Street 34	779	Bucket 25			1 P.V		Very badly contaminated
Boston Street 15 and 20	780	Bucket			1 P V		Badly contaminated
N J R. R. Avenue, 251	781	Driven	"	....	....	...	Very badly contaminated
Warren Street, 174	782	Bucket	"	....	....	....	Contaminated
Pacific Street, 172	783	Pump 15	"	.....	....	..	Very badly contaminated
East Kinney Street, 311	784	Bucket 12			1 P V	.	Very badly contaminated
Pacific Street, 62	785	Bucket 18	"	....	..	...	Very suspicious
Congress Street, 24 and 26	786	Bucket 23		1 C P	2 P V	..	Very suspicious
Congress Street, 129 and 131	787	Pump 30	"	....	....	....	Suspicious
N. J R R. Avenue, 487	788	Driven 158	"	....	....	4 P V	Suspicious
Old Bloomfield Road, 5	789	Pump	"	....	..	...	Suspicious
Passaic Avenue, 15	790	Pump	"	1 P. V	1 P V	1 P.V	Suspicious
Ferry Street, 144	791	Pump 25	"	....	....	....	Contaminated
South 14th Street, 63 and 71	740 R	Art'sian 105					Suspicious
Clay Street, 95	773 R.	Pump 23	"				Badly contaminated

Letter "R" indicates where wells were re-analyzed

METEOROLOGICAL REPORT.

METEOROLOGICAL OBSERVATIONS DURING THE YEAR 1900

If any one fact in meteorology has been established in the nineteenth century, it is that the weather upon the Atlantic seaboard has not materially changed. Records have been kept at various points with care and regularity for the greater part of the hundred years. The isotherm of 52 degrees still passes through Newark, although there are years when the average annual temperature will vary slightly, now rising above and then falling below that point.

It can also be shown that extremes of temperature follow one another closely; that is, a hot Summer will be succeeded by a cold Winter. A Summer's heated term may be of short duration, with record breaking tendencies at the upper end of the mercury tube, or it may be more protracted with high temperature on succeeding days, but no exceedingly high point attained. The Summer of 1898 is an example of the former, and that of 1900 of the latter. In July of 1898, when the thermometer showed 102 degrees, all previous records were surpassed. Up to that time the record of 1849 (namely 99.7 degrees) had never again been reached. In the Summer of 1900, while the 101 degrees mark was made on one occasion, there were more days when a temperature of 90 degrees and over was recorded than in any other Summer for a quarter of a century.

August, September, October and November show a great excess of heat. In consequence, wintry weather has been slow in establishing itself. It is reasonable to expect, according to the principle already alluded to, a somewhat long period of cold weather in the first two months of the new year. It will be remembered by most readers that the Winter of 1898-1899 was a record-breaker. There was killing frost as late as mid April and a snow flurry or two in May.

The year now ending has for its annual mean 52.8 degrees; 1899 averaged 51.3 degrees, while 1898 gave 53.8. The mean annual temperature of Newark, estimated from records dating back to 1843, is 52 degrees.

The following table shows the average and extreme temperature for each month of 1900.

	Average Deg.	Highest. Deg.	Lowest. Deg.
January	31.4	54	8
February	29.7	59	3
March	33.7	53	5
April	50.5	78	27
May	59.6	93	34
June	69.8	95	48
July	75.6	101	55
August	74.9	97	54
September	69.1	94	45
October	58.6	84	30
November	46.5	73	23
*December	33.4	60	8

* Not including temperature of the 30th and 31st

For comparison are appended also the following tables:

* TEMPERATURES FOR THE PERIOD 1843-1900

	Monthly Average. Deg.	High Temp. Recorded Deg.	Time Year	Lowest Recorded Deg	Time. Year.
January	29.2	65	1876	**12.7	1866
February	30.4	68	1874	** 8	1855
March	37.7	77	1851	2	1868
April	48.7	93	1896	17	1857
May	59.2	97	1895	31	1861
June	68.9	98	1899	38	1843
July	74.4	102	1898	46	1845
August	71.9	99	1854	47	1854
September	64.6	100	1876	45	——
October	53 5	89	1897	22	1845
November	42.9	74	1896	8	1876
December	32 8	68	1848	** 7	1880

** Below zero

* From State reports furnished by William Whitehead, Judge Ricord and George C. Sonn.

The year's range is 98 degrees, from 3 degrees on February 2 to 101 degrees on July 17. The variations of the monthly means from normal are as follows :

	Excess. Deg.	Loss. Deg.
January	2 3	
February		0 8
March		4 1
April	1 8	
May	0 1	
June	1 1	
July	1 4	
August	3 1	
September	4 0	
October	5 2	
November	3 7	
December	0 6	
Totals	24 2	4 9

Total excess, 19.3 degrees.

This means that the monthly averages were 1.6 degrees above normal. In other words, each day of 1900 had a degree and six-tenths of excess temperature on an average.

That this heat was not evenly distributed is revealed in the fact that light frosts occurred as late as May 10. This was fully three weeks after early wild flowers had blossomed and fruit and shade trees were in bud.

TABLE OF PRECIPITATION.

RAIN AND MELTED SNOW (IN INCHES).

	1900.	1899.	AVERAGE FOR 1843-1900
January	4.28	4.99	3 65
February	5 82	5.37	3 60
March	3 14	6.62	3 81
April	2 28	1 73	3.53
May	4 02	1.63	3.97
June	2 56	1 06	3 57
July	6 12	4.85	4.28
August	2 68	4.92	5.07
September	3 30	6.49	3.75
October	1 80	2.54	3.58
November	4.68	1.78	3 63
*December	1.10	2.44	3.63
Totals	45 68	44.42	46.07

*30th and 31st excluded.

The total for 1898 was 53.64 inches; for 1897, 66.52 inches.

TABLE OF DAYS OF PRECIPITATION, SNOWFALL, ETC.

	Snow Fall. In Inches	Days of Precipitation	Greatest Precipitation in 24 Hours Inches	Days Clear
January	2 00	11	1 81	8
February	14 00	10	2 22	8
March	7.50	10	1 32	9
April	Trace	8	0 66	12
May		12	2.28	10
June		10	0 97	8
July			1.72	14
August		8	1 07	11
September		9	2 05	10
October		11	2 39	10
November		13	2 40	7
December	Trace	3	0 94	10
Totals	24 50	116		117

The remaining days of the year are termed cloudy or partly cloudy.

The rainy days of 1899 numbered 131, and the cloud less ones 128.

Of the holidays, January 1st was partly cloudy, with a a light snow storm ; Lincoln's Birthday was clouded and rainy, Washington's Birthday also was cloudy and wet, Easter was clear and mild ; Memorial Day, fair and cool ; Independence Day, hot, "muggy," with thunderstorm in the early afternoon ; Labor Day, fine and warm ; Election Day, clear and balmy ; Thanksgiving, cold and threatening ; while Christmas was clear and delightful

Branch brook was opened for the first skating in the Winter of a year ago on January 2d. This season saw skaters on the same pond as early as December 17th. The first heavy frost of the present Winter was on October 17th

Freezing temperature was first recorded on October 20th Settled cold weather came later than usual, not beginning until the second week of December.

Individually, the months of the year presented very few unusual or striking meteorological phenomena January had an excess of humidity and precipitation and a normal amount of sunshine There were no heavy snows, but an abundance of foggy weather. There were six severe wind storms February and March were cold and blustery. The snow storm of February 18th was the heaviest of the Winter. On a level the snow would have measured about a foot in depth, but high winds caused much drifting and thereby much hindrance to locomotion

Spring, according to the astronomical observations, began on March 22d At that time there were no evidences of Winter's departure. Snow still lay in side streets and vacant lots, the relics of a severe storm on March 15th Maples and magnolias were blossoming in sheltered and sunlit lawns as early as Easter day, April 15th. This month was unusually fine, abounding in sunshine The amount of its moisture was considerably below normal May's showers came chiefly in a few storms that were severe and of short duration.

A water famine threatened the region roundabout when the Summer began July was wet as usual, but August did not render its due supply of rain. The two months will never be forgotten by the present residents of this locality, because of the prolonged heat There were twenty-four days in these months when the mercury reached or exceeded the 90 degree mark in the thermometer. On July 17th the 101 point was attained, the highest record, save one, for the period beginning with 1843 and closing with the century.

The public schools opened on the 10th of September. Genial weather prevailed at the time and, with the excep-

tion of a humid day or two, continued to the end of the month

The fiercest wind storm of the year was that of October 16th. It was of short duration and covered a very limited area, in fact, in its behavior closely resembled a Western tornado. The anemometer recorded a speed of seventy-two miles an hour. As this instrument records only complete miles it is likely that the wind greatly exceeded this velocity in the short spasmodic blows that characterized the storm. Much damage was done to buildings and foliage. Three lives were lost in the falling of a new structure in Kearny. There was only 0.06 inch precipitation while the storm lasted. Much excitement was caused by the showers of dust that preceded the rain.

Another storm somewhat similar visited the city on November 21st. The velocity of the wind did not exceed sixty miles. The storm continued less than half an hour and a beautiful double rainbow adorned the eastern sky, following in the "footsteps" of the receding showers.

The small boy put on his skates for the first time on December 10th. There was good ice on small ponds in the meadows and on the Orange mountains for a week before the Branch brook was deemed safe. Thus far no snow has fallen in measureable quantity, and the year will probably close with clean streets, bright skies and good ice.

GEORGE C. SONN,
Observer.

AREA OF CITY AND EXTENT OF PUBLIC IMPROVEMENTS

Census Population, 1890	181 830
Estimated Population, 1900	250,000
Total area of the City's square miles	18½
Built up square miles	12½
Meadow land, square miles	6

Length of River and Bay front, miles	10 5-10
Number of miles of granite block	33.97
" " " " trap "	12.29
" " " " telford pavement	10.05
" " " " cobble stone pavement	12 75
" " " " asphalt pavement	41 54
" " " " brick pavement	3.85
Total length of paved streets	114 44
Number of miles of unpaved streets	110.54
Length of Electric Ra .ways,, miles	70 00
Length of Steam Railways, miles	28.38
Length of brick sewers, feet	336,719
Length of p.pe sewers, feet	493,286
Length of private sewers, feet	116,560
Toial Length of sewers, feet	946,141
Total number of sewer basins	2.728
Length of water mains, miles	229¼
Average da ly consumpt.on of water during the month gal.ons	25,000,000
Capacity of water supplied per day, gallons	50,000,000
Number of bu.ldings	29.736

PUBLIC PARKS

Military, acres	6.45
Washington, acres	3.40
Lincoln, acres	4.37

NEW PARKS.

Branch Brook, acres	280
East Side, acres	13
West Side, acres	23

Allow me, in conclusion, to express my sincere thanks to the members of the Board of Health, individually, for their kind co operation and many courtesies extended to me in the performance of my duties.

I wish also to thank the employees in general for the willing and effic.ent manner in which they performed their duties.

Very respectfully,

DAVID D. CHANDLER,
Health Officer.

For Businesses, S

Many Small-Business Owners Looking

By REED ABELSON

Brian Adams, who sells fireplaces in Indianapolis, is like many
ne nation's small-business owners. As the cost of providing
th benefits has climbed, he has struggled to afford coverage for
employees — a problem the new health care law was designed,
art, to address.

But a year after the law's introduction of the insurance ex-
nges, provisions that were supposed to help small businesses
employee health benefits are largely seen as a failure. And
Adams, like many of his fellow business owners, is sending em-
ees to the exchanges to buy their own coverage instead.

Nancy Smith, who runs the Great Arizona Puppet Theater in Phoenix
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she said.

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nt Surge of Leveraged Loans

R EAVIS

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Street: the debt mar-
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a billion dollars.

company, Bowlmor
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rillion since the start of last year.

"It has all worked out very well for us," Mr. Shannon said, sitting in the office of one of his bowling alleys, near Times Square. "The payments are very reasonable."

In raising money for Mr. Shannon, Wall Street would appear to be doing its job of matching companies that need capital with investors who can provide it. After banks like JPMorgan Chase and Bank of America make loans to the companies,

POPU

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